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Urban Uncertainty

Governing cities in turbulent times

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Delhi
Photo: Stuart Freedman

PROJECT OVERVIEW

Projections of uncertain futures pervade public and political debates around the world. Spectres of natural disaster, disease outbreak, economic crisis, infrastructural breakdown and violent conflict persistently threaten to disrupt city life. Social, economic and political stability have become central concerns for urban governance, development and planning. With future projections, calculations and imaginings increasingly shaping space, politics and everyday life throughout the contemporary urban world, there is a political imperative to plan for and manage uncertainty. But with what effects, and for whom?

These issues motivated our research. From 2012 to 2015, researchers at LSE Cities developed the Urban Uncertainty project to study how uncertain futures shape the ways in which contemporary cities across the globe are lived, planned, built and governed. Led by Dr Austin Zeiderman, the research team included Dr Sobia Ahmad Kaker, Dr Jonathan Silver and Dr Astrid Wood. We took an interdisciplinary approach, incorporating anthropology, geography, politics and planning to focus on the environment, security, infrastructure and transportation in Latin America, Africa and Asia. We aimed to conceptualise uncertainty and better understand how, and with what effects, uncertainty interacts with and shapes urban life.

This report details our research and engagement with uncertainty. Alongside the core team's research, we ran the Urban Uncertainty Workshop Series: 13 interdisciplinary discussions that brought together 64 scholars and practitioners from 41 institutions across the world. These discussions strengthened and complemented our empirical investigations.

To reflect the project's dual nature, the report is divided into two parts. The first part offers selected analyses directly from, and related to, the project's research; the second part presents summaries of the Workshop Series. The essays and event summaries capture the ways in which formal state institutions, as well as everyday urban life, relate to unpredictable, unknowable or unmanageable events. When read as a whole, the report offers a comprehensive overview of key debates on urban uncertainty across continents. Empirically focused, this interdisciplinary engagement with uncertainty around climate change, infrastructural disruption, insecurity, speculation, pandemics and land politics highlights the many ways it manifests across local and global scales. The study also reveals the varied strategies and tactics that individuals and groups – within and beyond official domains of urban governance – use to govern and find stability in uncertain times.

Overall, this report should be a valuable resource for both scholars and practitioners. The in-depth case studies provide key information for academics interested in grappling with what is a methodologically and theoretically challenging concept. Similarly, the rich contextual analysis detailing how governments manage uncertainty – and the socio-political outcomes – offers policymakers a chance to review existing processes of governing, and governing through, an uncertain future. Even better if the project can continue to provoke further discussion and engagement.

EMPIRICAL RESEARCH: CITIES COVERED IN PART 1


Islamabad
Karachi
Accra
Mbale
Johannesburg

PART I:
EMPIRICAL RESEARCH

PART I: EMPIRICAL RESEARCH

To highlight the importance of uncertainty to the contemporary urban condition, team members conducted fieldwork in six locations – ranging from small cities to large metropolises across Latin America, Africa and Asia. Although the inquiries focused on how uncertainty interacted with urbanism, the research's scope often extended beyond the city. The project team worked at different sites and scales for two reasons: First, to see how uncertainty is produced and responded to across distributed networks. Second, to move beyond static understandings of the city as a single, bounded container of socio-political relations.

In studying urban uncertainty, each team member focused on a different form of uncertainty in a different setting and studied its varied implications for urban governance. In the process, they examined aspects of urban life that could not be fully known, anticipated or managed. They looked far beyond the state's role in urban governance, examining civil society and the private sector as well as the urban spaces and populations that various governmental interventions target. The project team also considered less obvious but equally important actors – from social media networks to paramilitary armies to alternative energy providers – to understand how governance's boundaries were actively contested and reconfigured. Methodologically, the researchers used ethnography to gather information from within and beyond local sites of enquiry (a neighbourhood, locality or network within the city). Team members also adopted a comparative approach, allowing them to remain grounded in each place while highlighting the parallels and differences across respective field sites.

In Part One we present selected outputs from these research activities. The first piece is a research article that synthesises the project team's collaborative efforts in understanding urban uncertainty through their empirical research in Bogotá, Karachi, Accra and Johannesburg. The next three pieces are case studies based on individual research carried out by Dr Austin Zeiderman, Dr Sobia Ahmad Kaker and Dr Jonathan Silver on aspects of uncertainty in Buenaventura, Colombia; Karachi, Pakistan; and Mbale, Uganda, respectively. Taken together, this research brought uncertainty into focus as a central feature of urban space, governance, politics and everyday life.

Guangzhou
Photo: Silent Tapes

UNCERTAINTY AND URBAN LIFE

Dr Austin Zeiderman, Dr Sobia Ahmad Kaker, Dr Jonathan Silver, Dr Astrid Wood

A "spider-web city" hangs over a void between a pair of steep mountains, "bound to the two crests with ropes and chains and catwalks." Getting from place to place requires great skill for there is nothing but clouds for hundreds of feet until you hit the valley floor. "You walk on the little wooden ties, careful not to set your foot in the open spaces, or you cling to the hempen strands." This is Octavia, a city imagined by Italo Calvino (1974:75); the entire place sustained by a mere "net which serves as passage and as support." Rather than rising from this foundation, everything else dangles beneath: "rope ladders, hammocks, houses made like sacks, clothes hangers, terraces like gondolas, skins of water, gas jets, spits, baskets on strings, dumb-waiters, showers, trapezes and rings for children's games, cable cars, chandeliers, pots with trailing plants."

What could be more precarious, more uncertain, than a city where sustenance and livelihood hang by a thread and the simplest journey might send one plummeting into the void? Here's the twist: "Suspended over the abyss, the life of Octavia's inhabitants is *less uncertain* than in other cities." How could this be? Octavians are aware of that which remains concealed elsewhere: "They know the net will last only so long."

Calvino's Octavia prompts us to consider uncertainty as an essential dimension of urban life. Uncertainty has long preoccupied attempts to plan, build and govern cities. Architects and urbanists have often sought antidotes to that which cannot be known or managed: the "model" incarnates a vision of future possibility; the "zone" allows for the separation of areas with ambiguous boundaries; the "census" enables calculations on which to base interventions; the "plan" offers an authoritative promise of the city to come. Uncertainty has not only been a problem for professional urbanists, but for those who live in cities. Early theorists of the modern urban experience were deeply concerned about city life's social and psychological effects. Opposing what they assumed to be the regular, stable, familiar routines of rural existence, the city was a fundamentally unknowable and unpredictable environment. What Georg Simmel (1969) called the "mental life of the metropolis" was a response to the modern city's frenetic tempo, unbounded multiplicity and infinite complexity. If one responded to all external stimuli, he worried "one would be atomised internally and come to an unimaginable psychic state" (1969:53). Impersonality, anonymity and indifference was thought to defend against modern metropolitan life's fundamental uncertainty.

While uncertainty has its place in the history of urbanism, it has taken on new urgency. Urbanisation, Neil Brenner observes, "has become one of the dominant metanarratives through which our current planetary situation is interpreted, both in academic circles and in the public sphere" (2013:85). Yet disagreement exists at the most basic level over how to describe the global urban condition and how best to analyse and interpret urban life (McFarlane 2011a; Brenner, Madden, and Wachsmuth, 2011). Many analytical frameworks are competing for dominance as urban theory's received paradigms have come into question (Jacobs, 2011; MacLeod and Jones, 2011; Roy, 2005; 2009b). If there is any consensus about 21st century cities, it is that it is impossible to predict what they will become. It is the same in urban politics, policy and practice. Beyond the perfunctory prediction that "the future is urban", there is no shared vision of how this future will unfold. As visions of urban futurity cede to tentative experiments in managing what cannot be confidently foreseen, governments and populations alike must orient themselves towards the unknown (Walker and Cooper, 2011; Lakoff, 2007). Widely used concepts like "preparedness", "resilience" and "sustainability" reflect uncertainty's importance to contemporary urbanism (Amin, 2013). Living in economically, politically and ecologically turbulent times, uncertainty seems poised to define urban theory and practice.

Whether present futures are objectively more uncertain than futures past is beyond this essay's scope. We remain agnostic about such world-historical questions and resist the temptation to naturalise uncertainty as an essential characteristic of urban life today. Nevertheless, we wish to address uncertainty's theoretical and practical problems by placing it at the centre of our critical inquiry. We present four cases that use uncertainty as a lens to examine the urban.[1] All of our cases emphasise aspects of cities and urban life that cannot be confidently known, anticipated or managed; however, each focuses on a different dimension of uncertainty, locates it in a different city and mobilises different conceptual tools for making it visible.

In Karachi, Pakistan – a violent, conflict-ridden city – Kaker focuses on a military-run securitised housing complex that promises to reduce the uncertainties in daily life. In Accra, Ghana, Silver concentrates on crises within the energy networks that supply the city, and how people respond to persistent infrastructural uncertainty. In Bogotá, Colombia, Zeiderman highlights how an uncertain future affects the present when he examines efforts to govern potential threats in informal settlements on the urban periphery. In Johannesburg, South Africa, Wood considers how investment in transportation projects that promise universal applicability and predictable results are a response to uncertainty about the post-apartheid city's future.

Our interest in uncertainty is inseparable from the locations in which we work. Karachi, Accra, Bogotá and Johannesburg – like many cities of the Global South – are places that repeatedly frustrate the desire for certainty inherent to modernist urban planning, governance and development (Chakrabarty, 2002; Edensor and Jayne, 2011). They are typically seen to lack the laws, institutions,

statistics and boundaries on which to base rational, technical solutions to persistent urban problems. Chaos, inconstancy and unpredictability are often associated with urbanism in the Global South. It would thus be easy to read our argument about the importance of uncertainty in contemporary urban life as peculiar to these cities or, indeed, to think we see uncertainty as a synonym for poverty, informality or disorder. Instead, we argue that while the dynamics we discuss may be less evident in the Global North, they nevertheless confound categorical divides of First and Third Worlds, global cities and megacities, modernity and development (Robinson, 2006). Inverting urban theory's conventional trajectory, often based on cities of the Global North and then "applied" to the rest of the world (Roy, 2009a), we ask how examining urban uncertainty in the Global South can tell us about contemporary urbanism at large.

Our initial conversations highlighted parallels across our respective field sites. We thus avoided treating the "urban" as a distinct and bounded spatial type with common characteristics. The comparative approach allowed us to remain grounded in each city, letting each case illuminate different dimensions of our study (Robinson, 2011). Rather than applying a single conceptual framework to the four cases, we based our experimental inquiry on a set of questions:

- What uncertainties exist in each city and how do they materialise in urban space?
- How is uncertainty produced, what work is it doing and at what scale?
- What projects – both personal and political – does uncertainty enable or constrain, and what responses is it generating?
- How do different urban actors live with, negotiate and mobilise uncertainty and what additional uncertainties are emerging as a result?

Together, these questions point to uncertainty as something that is both produced and productive – a dialectic of uncertainty: dynamic, processual and recursive at its core. This approach allowed us to focus on the multi-scalar relations between sites in and outside of official municipal boundaries. It also enabled us to cross conceptual and methodological boundaries to account for uncertainty as something that is at once cultural and material, technical and political, actual and potential, real and imagined. Our ultimate goal is not to overcome the theoretical and practical uncertainties we identify, but to demonstrate how analysing uncertainty is an essential dimension of the contemporary urban condition.

An island of order in Karachi

Dr Sobia Ahmad Kaker

Imagine living in a space administered by a non-democratic governing authority where permission to buy, sell or rent property is based on background checks; conditions are imposed on free movement; CCTV cameras and guards monitor entry; and strict rules govern everyday life. This is the reality for the residents of Askari III: a heavily securitised, walled and gated housing complex for ex-military personnel and civilians in Karachi. Hundreds embrace this authoritarian environment to provide some certainty in a city that is prone to violence and infrastructural disruption.

For Karachi's 18 million residents, each day brings uncertainty. The spontaneous breakdown and suspension of basic public utilities such as water and electricity is common, caused by contests over jurisdiction among the numerous federal, provincial and local governing agencies. Fear also hangs over the city as residents frequently fall victim to kidnappings, robberies and shootings; effective and responsive public policing is lacking. In Karachi's neighbourhoods, residents create alternate systems to manage disturbances. Informal governance structures emerge to remedy infrastructural disruption and insecurity; these could be resident committees and community associations or armed gangs and local militias. The residential enclaves they form are politically charged spaces that political bosses patronise; and thus become embroiled in Karachi's volatile vote politics. The area's political significance, as well as the patron's power over local and national politics, usually determines the number of favours given to improve public services.

These processes are taking place across the city. Karachi has morphed into an archipelago of enclaves. They exist in both planned and unplanned areas and differ according to physical features, circulation patterns and social demographics. All, however, are privately securitised, exclusive spatial communities governed through distinct juridico-political structures. In this sense, enclaves are like a spatial manifestation of civic government (Robins, 2002; Roy, 2009b). They are relational and dynamic spaces borne out of multi-scalar political alliances and negotiations. Necessarily fluid, their boundaries shift to include and exclude people based on the negotiated outcomes.

Enclavisation exemplifies urban uncertainty's productive capacity. It mobilises what Abdou Maliq Simone refers to as "anticipatory urban politics" or "the art of staying one step ahead of what might come, of being prepared to make a move" (2010:62). The myriad actors working to manage uncertainty through alliances, coalitions and associations among and between formal and informal government institutions constantly shift position in order to pursue more satisfying outcomes (Simone and Rao, 2012), especially to enlist allies who can help to manage crises (Appadurai, 2002). The process is political in nature, however, and wrought with tensions and conflict (Budhani

et al., 2010). Uncertainty – whatever your position – is ubiquitous in urban life.

Askari III is one of many such enclaves in Karachi. Settled on land that falls under the Karachi Cantonment Board's (KCB) jurisdiction, the colonial administration originally established the KCB to create a residential space for civilians who are ancillary to the British military. Rooted in the French word *canton*, cantonment refers to "a small part or a political division of the country" (Onions, 1966:142) and aptly defines Askari III's political space. Free from the democratically elected City District Government of Karachi's (CDGK) sovereign authority and thus exempt from the CDGK's legal building codes and by-laws, KCB has independent responsibility over infrastructure provision, municipal functions and land development. Public and private security forces police the KCB and strictly monitor entry. Despite this physical and politico-legal separation, the KCB's infrastructure does link to the CDGK's technical systems outside the enclave. Askari III is thus an exceptional space both separate from and dependent on the wider city.

Its residents are frustrated with the restrictive environment, but it offers them security and stability impossible outside its walls. As one resident said: "I just don't like this kind of life, but what do you do? ... Last week, one political leader said something to another and that was it. No one could step out anymore because there was chaos in the streets. The kids just slept most of the day but in the evening I thought, thank God, at least I can go out and take a walk!" Paradoxically, however, living in a city where the Taliban regularly attacks state-military structures, residents can also feel more insecure. "We are all potential targets for terrorists – especially living in Askari ... but we also know what the situation of the city is." For residents, the uncertainties around everyday violence and infrastructure are more intolerable than the threat of a terrorist attack, seen as an exceptional event. Askari III promises a secure island of order in a city characterised by disorder. Preferential legal agreements between the KCB and public utility companies grant Askari III's residents special rights over water, gas and electricity. The agreement promises uninterrupted utilities at subsidised rates, prioritising cantonment areas at the cost of other areas. Successive military dictatorships have shaped the legal framework to favour military enterprises.

Askari III residents' desire to live in a military compound and their relationship with the state reflects Pakistan's turbulent political history. In the 66 years since independence, the military has ruled the country for more than 30 years. In this period, it has become an organisation of major geo-strategic and geo-economic value (Siddiqa, 2007). Due to its historical success, the Army is trusted to deliver prosperity and security. Citizens view a democratic government as messy: political negotiations between coalition parties result in perpetual uncertainty over who holds power. Civil conflict often ensues, and the government loses credibility and legitimacy. This affects governance at the municipal level, and results in infrastructure disruption, economic decline and urban insecurity. Sana, who lives in Askari III, sums it up: "The police are a source of insecurity rather than security, the government is extremely corrupt – current events have completely lifted my trust from these institutions. The only time the government runs properly is when it is under the Army's baton!" Residents like her fondly remember military rule as a time of predictability, security and prosperity. Despite suspending the rule of law and declaring a state of emergency, the military is trusted to bring stability to everyday life.

Yet, these secure, relatively "known" spaces make the rest of the city more uncertain and insecure. By altering the relationship between citizens and the state, enclaves like Askari III upset Karachi's delicate political balance. Exclusive rights over urban infrastructure and public utilities – coupled with increased security inside the enclave – displace costs, shortages and disruptions to those living outside. In turn, neighbourhoods outside cantonment areas resort to enclavisation and urban fragmentation multiplies. In other areas, resident associations emerge as powerful non-state actors who displace the government's legitimacy by mediating between citizens and government agencies. As traditional urban governance structures are twisted, residential enclaves materialise as spaces that could restructure urban power and politics. Enclavisation is therefore a self-perpetuating phenomenon linked with urban conflict and crisis. The certainty promised by enclaves such as Askari III generate further uncertainty beyond their borders.

Navigating uneven energy disruption in Accra

Dr Jonathan Silver

The cascade across the electricity system is visible as I approach Ga Mashie, a poor neighbourhood in central Accra. A light goes out in one household and then another, quicker than I can follow. The music from a bar ceases and bright alleys plunge into darkness as the municipal power network asserts itself over the area (Bennett, 2005). This is the third time this week that the neighbourhood's electricity has been disrupted. Ga Mashie's erratic and unreliable electricity supply reflects a periodic crisis in those districts without access to the spluttering generators that hum ubiquitously in middle-class areas. Residents manoeuvre around shifting infrastructure conditions to navigate the unpredictable challenges of everyday life.

Ongoing generation problems at Akosombo Dam have led to this multi-scalar crisis in energy production. Accra's energy predicament is like a metabolic process (Gandy, 2004; Keil, 2005; Swyngedouw, 2004) involving flows of capital. The Sahel region's increasingly arid conditions affect water flows across the entire Volta Water Basin, including this hydroelectric facility. At other times, poverty affects households' ability to sustain electricity supply. New pre-payment technologies compound energy deprivation;

low-income residents are often unable to afford paying in advance for this vital urban service.

These issues make it impossible for many in the city to anticipate the flow of electricity. In Ga Mashie, disrepair and inaccessibility characterise its daily energy patterns. Gone are promises of a better future through networked services – the (Afro) modernist infrastructural ideal (Graham and Marvin, 2001) – around which Ghana's first president, Kwame Nkrumah, sought to unite the newly independent, postcolonial nation. Despite architectural and infrastructural remnants from this more confident era, many of Accra's residents are left with the legacy of Structural Adjustment Programs (SAPs) of the 1980s, under-invested infrastructure and wider conditions of poverty. People do not simply cope with the city's unpredictable energy landscape – they find ways to navigate it by collaborating across and beyond the energy infrastructure system.

A drift around the area reveals the multiple intersections between people and infrastructure in Accra's low-income, networked neighbourhoods. Hawkers sell fuel for lamps to use when the network is disrupted, creating new ways to earn a few cedis (Ghana's currency). Boys transform firewood into charcoal, providing material for cooking and generating some cedis for pre-paid electricity credit. Electricians keep meter readings low so households have light in the evening for children's homework. A woman provides a charging point for mobile phones, vital when electricity is so uncertain. A man tinkers with a broken transistor radio that used to provide news of network disruption. Others come together to hook up a new shack to a light source, giving recent settlers a sense of security and belonging. Elsewhere, the Electricity Company of Ghana's (ECG) office closes because the woman who works the counter is ill, causing considerable disruption; local residents must put off their electricity credit purchase or travel to the next payment office 20 minutes away. These patterns may be similar the next day, but the dialectical urbanism will be in flux again (Simone, 2004a) as residents incrementally find new ways to live in the city (De Boeck, 2011).

While uncertainty can produce conflict, collaboration is the norm. Temporary intersections of interests around sustaining the area's energy infrastructures combine to navigate network disruption, energy deprivation and the daily task of getting by and getting on (Simone, 2004b). A local bar, anticipating increased revenue, finances a new street light, and an electrician with a newly opened charging point works for free. Two young men from the opposite compound are sent to fetch wiring, content that the street light will provide their household with free evening light. Finally, the head of the local ECG office waves away concerns about the street light's status; he understands its importance in generating income and knows he will receive a beer or two later in the week. Where people and infrastructure cross – what Simone (2004b) terms "people as infrastructure" – collaborative urban learning (McFarlane, 2011b) allows residents to actively reshape the network and to improve, test and experiment ways to address energy poverty. Urban life's peripheral nature leaves many Ga Mashie residents vulnerable to multi-scalar crisis and energy deprivation, but it also presents possibility (Loftus, 2012) and new geographies of the city to come (Simone, 2004a). As Prof Filip De Boeck notes, in his research on Kinshasa, Democratic Republic of the Congo, this form of urbanism "offers [the urban dweller] a considerable freedom to capture the sudden possibilities opened up by unexpected occasions that are generated by the synergies and frictions of urban life" (2011:272).

The disruption and failure of Accra's energy infrastructures reveals more than the urban poor's responses to such dynamics; it highlights the city's "splintered urbanism" (Graham and Marvin, 2001). The energy crisis and its associated insecurities generate different but connected responses in other areas, demonstrating how uncertainty is problematised, capitalised and reshaped through relationships of class, power and access. As in Karachi, a boom in middle-class urbanisation is increasingly visible across the city's landscape. In Accra, energy-intensive concrete suburban areas worsen the crisis. Soaring demand from these households further stresses the electricity system while they use generator technologies to insulate themselves from the wider implications. Furthermore, frequent disruption and crisis across the city's energy infrastructure creates new opportunities to accumulate capital. Global equity companies and other real estate investors seek financial returns by selling infrastructural security (Grant, 2009). This has led to the growth of post-networked urbanism and premium network spaces (Coutard and Rutherford, 2011), which is increasingly visible as newly built neighbourhoods offer life without disruption through off-grid generation or new technologies like solar panels. These new energyscapes may lower demand, but they also inhibit future investment in the public network, create further divisions across infrastructure and mediate the uneven distribution of (energy) insecurity.

The multiple ways network disruption is produced, managed and negotiated across and beyond the energy network provides insight into Accra's broader dynamics. "The politics underpinning urban infrastructural transformation", Colin McFarlane and Jonathan Rutherford argue, "are rarely more evident or visible than in times of crisis or rupture" (2008:368). Understanding how uncertainty plays out reveals urban infrastructure's political nature and the role it plays in mediating social relations in the city.

Zones of uncertainty in Bogotá

Dr Austin Zeiderman

A massive landslide marked the beginning of the end for Nueva Esperanza, a settlement that rural migrants and refugees built on the steep hillsides of Bogotá's urban periphery. Before the catastrophe, settlers had got used to negotiating uncertainty. *Autodefensas* (paramilitary groups) controlled the streets, conducting *limpiezas* (social cleansings) to rid the neighbourhood of those they deemed *desechable* (disposable). Families who refused to collaborate or pay for protection received death threats. There were open-air drug markets, addicts robbing houses to support their habits, and shootouts between rival gangs competing for territory. As Joaquín, a former resident, told me: "That's how one lived in Nueva Esperanza; always fighting to survive." But daily life in Nueva Esperanza also involved a perpetual struggle with the settlement's physical conditions.

Tubes carrying pirated water often burst, the leaks saturating and destabilising the ground. Wooden posts holding up roofs would rot and occasionally fall down. The only way to dispose of wastewater was to dump it into the open stream, bordered by houses. People frequently got sick during the rains as contaminated water flooded their homes. When a hillside collapsed during an overnight downpour, taking 129 houses with it, the municipal government declared a state of emergency and a neighbourhood evacuation began.

Similar stories emerge throughout the urban periphery where threats of crime and violence intermingle with natural hazards like landslide and flood. Bogotá's highly insecure landscape, both human and environmental, is the product of 20th-century urban development patterns. Between 1950 and 2000, the population exploded from just over 700,000 to about seven million, and much of this growth took place in informal settlements on the mountainous urban periphery. Peasants from the countryside arrived in the capital city, either seeking economic opportunity or fleeing violence. Upon arrival, they settled in centrally located *inquilinatos* (tenement housing), but as existing options dwindled they gravitated to the hillsides of the city's southern periphery. *Urbanizadores piratas* (pirate urbanisers) began to appropriate territories previously exploited for construction materials, subdividing them into small plots and selling them without legal title. The state had neither the interest nor the ability to regulate the periphery's urbanisation; in fact, political parties often facilitated it ad-hoc in exchange for popular support. Settlers built their own dwellings using rudimentary construction materials on what was already precarious terrain. Conditions of compounded precarity are, as Mike Davis puts it, "poverty's niche in the ecology of the city" (2006:121-22). For all those living in settlements like Nueva Esperanza, anticipating potential threats has become a daily routine.

Managing future uncertainty is an urgent problem for Bogotá's urban poor as well as for the state. Since the late 1980s, the municipal government has been experimenting with techniques for securing the city against a range of potential threats. In 1989, the Colombian legislature enacted a broad reform of urban government. Municipalities with over 100,000 inhabitants had to create inventories of "zones of high risk" for environmental hazards and begin mitigation work or relocation programmes in these areas. In 1994, Bogotá's mayor, Jaime Castro, directed what was then the Office of Emergency Prevention and Response to analyse the distribution of disaster risk across the city. The municipal housing agency (the Caja de la Vivienda Popular) was later put in charge of a resettlement programme for families living in high risk zones, the majority of whom were located in peripheral hillside settlements like Nueva Esperanza.

In the mid-1990s, the need to secure Bogotá against potential threats extended beyond environmental hazards when Antanas Mockus was elected mayor in the wake of a barrage of homicides, political assassinations, crime waves and bomb attacks. Searching for innovative strategies to confront rampant insecurity, Mockus found inspiration in Cali, Colombia's third largest city, where the city government was approaching crime and violence as if they were emerging infectious diseases. Based on this model, Mockus set up a system for analysing existing crime data in order to identify risk factors that could predict when and where future violence would be likely to occur. Identifying the city as a security concern – a space of risk – united these distinct if overlapping approaches to governing Bogotá. Over the past two decades, multiple techniques have been devised to govern – and govern *through* – uncertainty.

Once they were brought into governmental frameworks, the urban periphery's precarious conditions could become politically and economically productive. In the case of housing, the state used risk management to limit its responsibility for housing the urban poor. Citizens' constitutional right to *vivienda digna* (decent housing) only applied to populations deemed highly vulnerable to environmental hazards. Nevertheless, when high risk zones were declared, it thrust thousands – previously marginal to formal economic and legal institutions – on the urban periphery into privatised markets for housing, credit and utilities. Since resettlement was ostensibly voluntary, however, the government had to make the benefits clear so residents would not only desire, but also organise their own relocation. In the process, residents could become homeowners, debtholders and consumers. Risk management compelled the government to address uncertainty, which then facilitated recognisably neoliberal capital accumulation, institutional reform and subject formation. These efforts to render uncertainty productive – though far less profitable – are analogous to financial instruments like derivatives, created to commodify contingency (Cooper, 2010; LiPuma and Lee, 2004).

Here, and in Accra, we see the parallel relationship De Boeck identifies between precarity and profitability in an urban context. "Daily life in Kinshasa [Democratic Republic of the Congo]," De Boeck says, "is constantly punctuated by uncertainty, risk, provisionality and the continuous hedging of bets, and these qualities also form the city's main asset, and generate its main financial opportunities, precisely because both city and capital share the same fundamental characteristics" (2011:279). However, future uncertainty does not always work in political and economic elites' interest or necessarily produce a post-political society ruled by technocratic experts (Swyngedouw, 2010). The uncertain future can also be an opportunity for people in the city's margins to engage politically and pursue a better future. In Bogotá, the governmental imperative to protect citizens against environmental hazards entitles vulnerable populations to housing subsidies. Some see this as an illegitimate exercise of state power or as too incremental to make a difference. Many, however, do recognise that their ability to demand state benefits – their very status as legitimate political subjects – is based on the degree to which their lives are in danger. Calculations of risk and vulnerability are contingent and changeable, so the government and those living in high-risk zones continually negotiate them. As such, those outside the zones' designated boundaries regularly petition the municipal government to recognise that they, too, are vulnerable to environmental hazards. It is often by making themselves visible as lives at risk – both individually and collectively – that the urban poor engage with the state (Chatterjee, 2004). When security is the government's orienting telos – that is, the political rationality shaping the state's authority over and responsibility to its subjects – future uncertainty becomes the ground on which the urban poor struggle for political inclusion, recognition and entitlement. Simone and Rao identify a similar political dynamic: "If no actor at any level can get a real handle on where [the city] is going, then an urban politics must try to eke out productivity from the prolific spaces of uncertainty" (2012:331). It is under these conditions, they argue, that "a possible and constantly mutating majority [attempts] to secure for themselves the ongoing possibility to carve out a viable life" (2012:316).

In Bogotá, uncertainty is not simply an experiential reality for the urban poor, a problem for the government to manage, an economic opportunity to pursue or a terrain for popular political engagement. It is all of them at once. Uncertain futures saturate the present, enabling and disabling a range of actions and reactions from the state and from the urban population at large.

Uncertain transport futures in Johannesburg

Dr Astrid Wood

In January 2013, the City of Johannesburg, formal bus companies, and informal minibus taxi operators signed a joint agreement to manage the second phase of Johannesburg's Rea Vaya bus rapid transit system. Bus rapid transit (BRT) is a mixed mode of urban public transport that combines a rail system's high quality and speed with a bus network's affordability and flexibility. Modelled after the successful BRT in Bogotá, Colombia and Curitiba, Brazil, it was first proposed in Johannesburg in July 2006. Just three years later, Rea Vaya Phase 1A became the first full-feature BRT on the African continent, promising to inaugurate a new era in South African public transport. Based on its success elsewhere, Johannesburg officials anticipated high ridership on this unsubsidised system that used existing paratransit operators. However, six years after Johannesburg initially adopted BRT, there is still only one 25.5-kilometre route moving just 45,000 persons each weekday. Uncertainty now hangs over a project that was once seemingly infallible. How did this once assured innovation become such a gruelling endeavour?

The story of BRT in Johannesburg reflects the transport sector's spatio-political challenges in this post-apartheid city. Johannesburg is a sprawling city of automobile congestion, broken "robots" (traffic lights), and aggressive taxis that cut across four lanes and stop suddenly to load passengers before zooming off. Built atop a maze of underground gold mine shafts, the city cannot support an underground transport network. For the most part, the urban poor rely on a politically powerful and largely unregulated fleet of overcrowded, poorly maintained minibus taxis that operate irregular services. Taxi riders are often stranded at street corners waiting for the elusive white vans or "coffins-on-wheels", whose unpredictable arrival introduces new dangers. Adopted to provide safe, affordable and reliable transport services to all Joburgers – particularly the working poor – while simultaneously formalising the obstreperous taxi industry, BRT's larger purpose was to address the city's historical spatial divide along racial lines and the post-apartheid splintering urbanism. Rehana Moosajee, Member of Mayoral Committee for Transport in Johannesburg, sees BRT as a means to restore dignity to Johannesburg's residents: "Part of the problem with the taxis ... is that people are treated like sardines ... We always tried to see the bigger picture, that of respecting the dignity of commuters and of a transformed public transport system."

BRT rollout has slowed, however, in part due to a prolonged disagreement among the paratransit operators (who have customarily provided transport along the 18.5-kilometre route between the former township of Soweto and the central business district). Moreover, taxi operators remain reluctant to relinquish their control over the transport sector and bus operators are suspicious of the city's reluctance to challenge taxis' unrivalled

dominance. Eric Motshwane (former Chairman of the Greater Johannesburg Regional Taxi Association and now Corporate Director of PioTrans, the operating company for Rea Vaya Phase 1A) attributes his initial apprehension in formalising the taxi industry to his reluctance to act alongside government officials and the threat of violence from other operators. At the same time, Thys Heys, Corporate Director of Putco, the largest bus company in Gauteng province, is uncertain about the competition between paratransit operators for passengers and revenue. These concerns are played down with the frequent assurances from city officials and BRT's international proponents that it would be both viable and socially just, while simultaneously reflecting Johannesburg's motto: "A World Class African City."

Johannesburg's transport uncertainty has been prolonged. It did not irrupt through shocks of extraordinary events, but formed through the ordinary and persistent stresses of relying on deficient urban transport networks. Looking back at the city's history, on-grade transport services initially hastened urban expansion. Horse-drawn streetcars were introduced in 1891; electric trams operated from 1906 to 1961; and trolleybuses ran from 1936 to 1986. Coincidentally, the minibus taxi industry was deregulated in 1986 and subsequently expanded its service between the townships and the city. Since then, city officials and engineers have struggled to propose an effective, alternative urban public transport solution. In 1999, through the national Taxi Recapitalisation Program (TRP), the government attempted to transform and regulate the minibus taxi industry by replacing old, tattered vans with modern, shiny vehicles. TRP introduced a material certainty by reducing safety hazards commonly associated with the inadequately maintained vehicles. The programme was largely ineffectual however; unlicensed drivers still drove recklessly, selectively picking up passengers on impulse, and riders still felt unsafe during their journey. The strategy to manage the informal taxi industry by addressing the taxis themselves did not substantially improve public transport services' overall quality. Along with promising certainty, major infrastructure projects can elevate suspicion and mistrust through implementation difficulties. McFarlane and Rutherford (2008) argue that infrastructure often becomes a site of negotiation, contestation and struggle, reproducing uncertainty within its materiality. Thus, certainty cannot always be associated with a project's size and scope.

When BRT arrived in 2006, passenger demand overwhelmed the existing rail network and its fixed lines were inadequate in the expanding metropolis. Bus systems were similarly unable to match the combination of extraordinary demand and low-density urban form. Nevertheless, six years later, the City of Johannesburg, formal bus companies and informal minibus taxi operators went forward with the second phase. The "potential uncertainty" (Samimian-Darash, 2013) of the constantly-approaching-but-never-arriving urban transport crisis helps explain BRT's rapid adoption and the government's persistence in resolving the paratransit operators' apprehension about the second phase.

Weak and ineffective government strategies to reform public transport, formalise the taxi industry and densify the city are among the major obstacles confronting post-apartheid urbanism in South Africa. Policymakers describe an almost doomsday scenario filled with anxiety and indecision; they call it a "commuter crisis" akin to the global financial crisis and argue that something must be done to reform and improve mobility opportunities. These arguments help explain how problems, policies and politics converged in Johannesburg to sanction BRT as *the* solution. Introduced as a way to guarantee safe, predictable transportation for those accustomed to riding in minibus taxis and touted as a low-cost, high-capacity solution to the city's urgent transport crisis, the government did not sufficiently investigate other solutions. Prior to BRT's adoption, transport officials were in the process of developing the Strategic Public Transport Network (SPTN), an attempt to manage informal transit services by creating comprehensive routes, timetables, and signage. In 2006 however, they scrapped the SPTN in favour of the grander BRT network. Policy mobilities literature (McCann and Ward, 2011) helps explain how Johannesburg adopted BRT due to its success elsewhere. The fantasy of certainty is perhaps a vital precondition for investing in major infrastructure projects like BRT.

Given its imagined transformative powers, it is not surprising that BRT's implementation has been challenging. BRT promises to provide Joburgers with an affordable, reliable and safe transport system; taxi operators with formalised and stable employment; and buses with viable routes. It also conjures up images of equality and dignity for all Joburgers, moving freely and efficiently through urban space regardless of skin colour or income, in a city free from informality, managed by an efficient and capable municipal government. In spite of Rea Vaya's delayed second phase, BRT remains the harbinger of an idealised yet perpetually delayed post-apartheid urban future.

CONCLUSION

Our opening reference to Calvino's Octavia reflects our initial aim to examine uncertainty's role in contemporary cities. In the course of our analysis, however, this imaginary place became more than a suggestive provocation. It began to serve as a figurative depiction of the multiple levels on which uncertainty shapes cities' organisation and inhabitation. Calvino's illustration of the precarious infrastructure supporting life in Octavia resonated with our analysis of vital systems (such as electricity, housing, and transport) whose form and function are far from stable. His image of a city held together by wooden ties and hempen strands, dangling over an abyss, crystallised

our focus on materialising uncertainty in urban space. Calvino's emphasis on everyday tasks, always undertaken with caution, resembles what people do when they cannot take basic necessities and routine activities for granted. In Octavia, these conditions are in plain sight, revealing visibility's importance in determining if uncertainty can be negotiated. Calvino's paradoxical insight – that awareness of Octavia's impermanence makes life *less* uncertain there than in other cities – mirrored our observations about the often contradictory outcome of quests for predictability, security and certitude.

Octavia only takes us so far. A number of themes from our four cases are absent from Calvino's figurative city. First, the observation that uncertainty crosses multiple levels and scales. It may be tempting to locate it solely within the urban poor's everyday struggles for survival. It is equally possible to see it as a problem limited to the techno-political domain of urban planning, development and governance. Rather than focusing exclusively on any one level, we used uncertainty as a lens to examine the urban from various perspectives. In Karachi, we focused on members of the urban middle class living in a heavily securitised, military-run residential compound. In Accra, households in a poor but networked neighbourhood most strongly experience the daily fluctuations in energy supply. In Bogotá, uncertain futures saturate the present on multiple levels. And in Johannesburg, policymakers managing the transportation infrastructure seek answers to an uncertain future.

Yet uncertainty is not a generalised condition that is evenly distributed – on the contrary, all the cities in which we work are deeply divided and unequal. As a result, urban actors with widely divergent resources and capital mobilise different tactics and techniques in response to multiple forms of uncertainty. Set against the modernist ideal of a politically unified, socially equal and infrastructurally cohesive city, these responses reflect social and spatial fragmentation. Unequally spread, according to hierarchies of power and privilege, uncertainty frequently crosses social and spatial divides, occasionally uniting actors solving a common problem or pursuing similar objectives. Weaving these dynamics together allowed us to demonstrate how uncertainty becomes an active force in shaping the city and everyday life within it.

All of our cases highlighted practices of seeking out, aspiring to and searching for ways to deal with urban existence's unpredictable and unstable dimensions. Without presuming that certitude is an essential human need, we recognised the seductive power of a life free from blackouts, violence, landslide and flood, and democratic deliberation. Even when solutions to uncertainty are found, there is rarely a final resolution or fixed closure-point. The situations we described are open-ended. Uncertainty is rarely, if ever, eradicated from the urban milieu; rather it is managed, displaced, deferred, reconfigured or reproduced. It is processual and relational. Strategies for reducing energy blackouts in one Accra neighbourhood increase their likelihood in another; relocating slum dwellers in Bogotá to protect them from one kind of threat exposes them to another; creating an enclave in Karachi destabilises other governance structures. Official and popular responses to uncertainty often attempt to create boundaries – spatial and temporal – around events, conditions, behaviours, objects and groups. Bounding uncertainty, however, is not the same as reducing or removing it. The phrase "governing *through* uncertainty" highlights that, in urban governance, that which cannot be calculated, predicted or fixed does not necessarily paralyse techno-political action. Uncertainty, as we have approached this study thinking, can be productive. In Johannesburg, uncertainties about how to provide public transport have a specific history, but they also play a role in shaping future possibilities. Uncertainty gives rise to novel urban configurations, transforming possibilities in the city while generating new forms of urban life and livelihood.

There are at least two reasons why we should not romanticise the openness of uncertain urban futures. First, we must not lose sight of many urban dwellers' precarious living conditions. True, the poor in Bogotá and Accra may relate to future uncertainty as a terrain of political possibility or as a field of creative collaboration. However, unpredictable electricity supplies and heightened landslide risks also index material conditions of protracted poverty and entrenched marginality. Even in Karachi, where middle-class residents use their resources and connections to seek protection within the confines of a walled compound, fears and stresses continue to haunt their daily routines. Uncertainty enables some futures while foreclosing others. Second, uncertainty's social and political openness has its economic twin, which usually results in material benefits for select groups. From investments in exclusive off-grid suburban developments in Accra to taxi operators delaying the BRT extension in Johannesburg, uncertainty produces opportunities for generating profit. Just as investment instruments like derivatives make it possible to capitalise on contingency, fluidity and unpredictability in financial markets, other techniques for managing uncertainty in an urban context convert these conditions into value that can be commodified and exchanged. In Bogotá, risk management programmes aim to protect vulnerable citizen's lives at the same time as they facilitate creating and expanding privatised housing markets, credit and services. By structuring capital flows in and out of the urban environment, uncertainty produces economic opportunities and shapes geographies of investment and disinvestment across the city. Again, we see that urban uncertainty is not always a problem to solve or a disorder to correct.

Our final observation is the degree to which uncertainty has become a feature and focus of urban theory and practice. On a theoretical level, universalist paradigms have been thoroughly unsettled; in their stead, we find a range of analytical frameworks offering fragmentary perspectives on the urban. On a practical level, grand

visions of urban futurity are disintegrating into tentative, localised experiments focused on eventualities to be avoided rather than pursued. Uncertainty has become integral to analysing and interpreting cities as well as to ideas of how to create tomorrow's cities. We have not tried to resolve this theoretical and practical quandary by proposing a new urban theory or a new vision to which cities should aspire. Rather, we have put uncertainty at the centre of our critical inquiry and examined its influence on how contemporary cities are planned, built, governed and lived. If uncertainty is important – perhaps increasingly so – to how the urban is imagined, organised and inhabited, then the task of analysing its analytical and political potential is now more urgent than ever.

Zeiderman A., Ahmad-Kaker, S., Silver, J. and Wood, A. (2015). Uncertainty and urban life, *Public Culture*, vol.27, no.2, pp. 281-304. Duke University Press.

[1] We undertook this collaborative project both collectively and individually. The conceptual framing emerged from a conversation about the common threads running through our respective cases, after which we agreed that uncertainty was a way to describe our shared observations. The first author – in consultation with the other three – wrote the introduction. We began our collaboration after all authors had concluded extensive field research in their respective sites. Yet data collected individually was re-analysed collectively with a fresh eye. The authors wrote the empirical sections individually with feedback from each other. The conclusion emerged from collectively identifying cross-cutting themes. The first author wrote it with substantive input from the other three.

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Rocinha, Rio de Janeiro
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COLOMBIA: FLUID FUTURES

Dr Austin Zeiderman

Mention Colombia to a group of urbanists and you can be sure their eyes will light up. Perhaps they will envision Bogotá's efficient public transportation system, Transmilenio, and extensive bicycle networks. Or their minds may drift to Medellín's playful yet socially-conscious public works projects, such as the Metrocable and the España Library. If members of the group are aesthetically inclined, they might recall recent fanfare surrounding Cali's art scene, and the artistic collectives sparking a cultural renaissance in the city. Those interested in historical preservation may imagine Cartagena's colonial architecture, and efforts to restore the city's rich cultural heritage.

It is likely, however, that the discussion will end there. The realities of daily life in cities like Turbo, Tumaco, Barrancabermeja, Montería, Florencia and Quibdó remain invisible not only to most urbanists outside Colombia, but also to many working within the country. Though the majority of Colombia's roughly 30 million urbanites live in these cities, and this is where future urban growth is likely to take place, they remain off most maps of the contemporary urban world. This is not simply a case of the biggest and brightest stars – the four or five metropolitan hubs with over a million inhabitants – outshining their smaller, less radiant neighbours. The country's ordinary cities are ignored for other reasons.

Colombia has long been associated with masked guerrilla – the murderous *narcotraficante* – and dystopic urban images. Although this reputation persists, international observers have recently begun to lavish praise on charismatic mayors, budding architects and their creative interventions within the urban fabric. Now celebrated as a laboratory of enlightened urban innovation, this reputation dominates discussions on the international stage about Columbia's cities. Many of the stories that do not fit this narrative never surface; others are dismissed as exceptions to an otherwise uplifting tale of urban regeneration. These inconvenient truths are mostly found outside the metropolitan centres, or on their peripheries, out of sight.

The rapid inversion of Colombia's stubborn infamy is not benign, however satisfying it may be for those hardworking, civic-minded people struggling to free their cities from violence and drug trafficking. Focusing on the big cities and their recent advances in urbanism allows realities elsewhere to remain invisible. The stories these other places have to tell may not be as hopeful – on the contrary, many are quite disturbing – yet they are central to processes of urbanisation unfolding in Colombia and beyond. Revealing the often overlooked realities in these often overlooked places will broaden our understanding of the 21st century urban condition.

The port city of Buenaventura is a prime example. Despite its increasing importance to the national economy, it rarely figures in conversations about Colombian cities. In fact, even those who have heard of it are sometimes surprised to learn that as many as 350,000 people live there. "That's ten times more than I thought", a friend from Bogotá once told me. Buenaventura's star is rising – there has been a recent spurt of national and international news media coverage – but the city remains in the shadow of the country's urban renaissance. Such invisibility is strategic: there are powerful people whose commercial interests – drugs bound for North America, electronics arriving from Asia – depend on keeping it that way. Highlighting the trade links – both licit and illicit – and the worsening humanitarian crisis threatens to expose the violence underpinning daily business.

Urbanists also have reason to take note. The city is rapidly transforming in relation to two imminent world-historical shifts – the Chinese economy's dominance and climate change – making it a good place to examine most contemporary cities' dilemmas. Like all future scenarios, projections of economic development and global warming contain a range of uncertainties. With imperfect and often contradictory information about the future, urban governments must make decisions in the present. Bigger cities have access to resources, information and expertise that are simply unavailable elsewhere, especially in the Global South. Future uncertainty impacts places like Buenaventura as much as larger cities, and may have even more to tell us about how it shapes urban life across the world.

The national and local governments both envision a future in which Buenaventura will become a "world-class port city", as the eponymous economic development plan reflects.[1] As Colombia's only Pacific Ocean port, they are enthusiastic about projections of booming trade relations with Asia. Columbian commentators herald the advent of the "Chinese century", labelling Buenaventura "Colombia's gateway to the Pacific", which the local development plan calls the "basin of the future".

Observers elsewhere do not match the certainty with which the Colombian state views the global economic future. Consider the cautious and somewhat pessimistic tone of a 2013 report co-authored by the World Bank and the Chinese government's economic advisory body: "Growth prospects [for China] are obviously highly uncertain, not only because of the short-run uncertainty linked to the global financial crisis but also because structural growth trends are contingent on innovations that are virtually impossible to predict. Nevertheless, strong signs suggest that population aging and the shift to services will slow growth in China and many other parts of the world."[2]

The Colombian government, however, remains confident that increasing economic ties with Asia and expanding its Pacific seaport are keys to securing the country's future prosperity. Vast amounts of public and private capital – from the Colombian government and from European,

Asian and Middle Eastern investors – are being funnelled into infrastructure megaprojects to accommodate as well as entice the anticipated increase of goods passing through Buenaventura Bay. These projects include additional port terminals, a new highway to the interior, a logistical operations centre, a deeper shipping canal, a waterfront promenade and even a trans-Andean railway.

A second imminent transformation – climate change – informs official visions of Buenaventura's future. There is considerable disagreement about what the warming planet will mean on a local level. Yet government officials are convinced that climate change is likely to impact Buenaventura adversely in the years to come. This ominous forecast is producing its own material effects, many of which tend to facilitate urban development's official vision, such as further dredging the shipping canal. As with the uncertainty surrounding projections of China's global economic dominance, climate-change uncertainty is rendered negligible insofar as it inhibits Buenaventura becoming a "world-class port city."

Standing in the way of these plans are waterfront settlements collectively known as Bajamar (meaning low-tide), built and inhabited primarily by Afro-Colombians. An estimated 110,000 inhabitants occupy these settlements, approximately one-third of the city's total population. Positioned at the intertidal zone between land and sea, they have become subject to a range of displacement pressures.

The official vision for the city's future sees Bajamar as an obstacle, since it occupies the land on which megaprojects are to be built. This plan, which combines aesthetic and technical criteria for how a "world-class port city" should look and function, would require the removal of the majority of Bajamar's residents. Additionally, projections of the potential impacts of climate change identify these neighbourhoods as highly vulnerable. According to the city's recently created risk management agency, the imperative to create a "resilient" Buenaventura demands relocating low-lying "high-risk" occupants. Finally, wars between rival paramilitary groups and state security forces are concentrated in these very same settlements due to their strategic importance to economies – both legal and illegal – that use Buenaventura for access to overseas markets. As a local religious leader put it, "Paramilitaries and development go hand in hand".

In spite of mounting displacement pressures, Bajamar activists and residents propose alternative scenarios for Buenaventura's future. Unlike the government's vision, which ignores economic and ecological uncertainty in favour of a rigid plan to increase the city's function as a port, their proposals take uncertainty seriously as an essential feature of everyday life. The solutions they imagine are based on settlement patterns and livelihood strategies uniquely adapted to the fluid social and environmental conditions of the Pacific coast.

The city of Buenaventura was founded on an island, the Isla de Cascajal, which now hosts the commercial centre, government offices and a residential population. From as early as 1860, vacant lots had to be filled with earth before construction could commence. In the mid-20th century, the urban population grew as Afro-Colombians migrated from nearby river basins and established settlements in a similar manner, reclaiming land from the sea. Habituated to riverine life, they gravitated to the bay's edges, filling in the mudflats with mollusc shells collected from nearby mangrove swamps. There, they built houses on stilts, adapted to the brackish estuary's tidal fluctuations, which allowed them to continue fishing, harvesting timber and mining artisanally for gold – their primary ancestral livelihoods – all of which depend on access to the sea and its tributaries. They linked their houses with elevated pathways and established connections to the municipal electricity and water supply as well as to its network of pavements and streets. "We call these areas *territorios ganados al mar*" (territories reclaimed from the sea), a local leader told me, rejecting the name Bajamar, low-tide, since it implies the need to be rescued from ecological vulnerability.

The rest of the city may have something to learn from these settlements and their intimate relationship with the sea. In 2012, one of the foremost journals of architecture and urbanism in Latin America, *Revista Escala,* organised a design competition in Buenaventura focused on climate change adaptation in coastal cities. It brought together students from 35 leading architecture schools in Colombia, Mexico, Ecuador, Panama and Venezuela to analyse existing settlement patterns, assess their vulnerability to environmental hazards and propose solutions for future development. Out of the 63 proposals submitted at the end of the study period, not a single one endorsed the government's plan to relocate Bajamar's residents. Instead, each team proposed a combination of neighbourhood upgrading and risk mitigation.

Many of the proposals envision localised improvements throughout existing settlements combined with restoring the aquatic ecosystem surrounding the island. Mangrove forests, once fully established, would provide a protective buffer zone between the city and the sea, increasing the (already high) degree to which the settlements are adapted to their environment. Mangroves provide the habitat for commercially important shellfish so, as well as valuable wood for construction, a sustainable development plan based on community-led resource management could follow their restoration. The judges praised the designs as offering promising approaches to climate change adaptation in Buenaventura, applicable to other regional coastal cities.

Activists and residents in Buenaventura have since lobbied the municipal government to consider these proposals as serious alternatives to port expansion and mass relocation. Current development plans fail to recognise that these settlements are already highly adapted to unpredictable

climatic futures, that architectural, engineering and ecological interventions could make them even more so, and that livelihood strategies enabled by proximity to the sea are indeed suited to economic uncertainty. For example, waterfront access gives people the ability to shift from fishing to construction when a shipment of wood arrives and a house needs to be built, then to transportation when a group of miners needs to travel upriver and to fall back on fishing when there's no more paid work to be found. Without the ability to foresee what will happen next or where tomorrow's meal will come from, work must remain flexible, diversified and opportunistic. Contrast this to the inelastic official strategy of wagering everything on the port, and on the future of the Pacific basin economy, predicated on displacing waterfront residents to the city's landlocked periphery. For Buenaventura's seaside communities, the right to existing livelihoods and sustained access to the sea is the right to remain adaptable in the face of economic and ecological uncertainty.

Unfortunately, residents and activists' pleas are repeatedly ignored. The intransigent vision of the "world-class port city" forecloses alternative urban futures. While such alternatives are not perfect, they do offer possibilities for adapting to and living with uncertainty. Yet the forces standing in the way of their realisation may be too strong. Urbanists need to look beyond packaged success stories from metropolitan centres. Creative responses to the world's urban challenges may be found in unexpected places – if only one dares to look.

[1] Ministerio de Trabajo. 2012. "Buenaventura, ciudad puerto de clase mundial: Plan local de empleo 2011-2015". Buenaventura: Ministerio de Trabajo, Fundación Panamericana para el Desarrollo.
[2] The World Bank and The Development Research Center of the State Council, People's Republic of China. 2013. China 2030: Building a Modern, Harmonious, and Creative Society. Washington, D.C., 362.

KARACHI: CIRCULATING UNCERTAINTIES

Dr Sobia Ahmad Kaker

Hearing gunshots close to his office on M.A. Jinnah Road, a Karachiite sends a tweet to @Khi_alerts, warning others of potential trouble. A few journalists pick it up in their Twitter feed and call sources in the vicinity to confirm if it is a newsworthy event. Sources might include a corner-shop owner, a tea boy and a policeman. Hearing suspicions that this may have been a targeted attack killing a prominent political leader, these journalists rush to the scene to investigate and perhaps report the event live. As TV channels sensationally break the news, urban residents, predicting violent reprisals, call friends and family and warn them to stay off the streets. Meanwhile, in London, analysts working in risk assessment companies read live news updates on killings in Karachi. Studying news reports, contacting friends in security agencies, and speaking to local security experts, risk analysts attempt to predict how current events will pan out. Reading into real-time updates on violence in the city, they form a range of anticipated scenarios for the short, medium and long term that help clients consider and plan future investments in Karachi.

The multi-sited events above highlight how, in Karachi, uncertainty is a relational dynamic that circulating information both governs and produces. Looking ahead to the 'Asian Century', it is uncertain what the future holds for Karachi. A city of approximately 20 million people – one of the most rapidly expanding port cities in the world – Karachi finds itself caught between dual realities. On one hand, as Pakistan's financial, industrial and trading capital, it is widely cited as a global city with potential to be a key player in the Next Eleven (a group of countries expected to join BRICS). On the other, local and international news and research reports consider the rapidly urbanising city to be at its limits, out of control, and careering towards a dystopian future where violence and insecurity run rife.

With murder rates as high as 13.5 per 100,000 people, local and international news media represent Karachi as one of the world's most dangerous megacities.[1] Urban residents and governors alike fear criminal and terrorist networks' growing spread and influence. The increasingly high incidence of muggings, kidnappings, burglaries, killings, and terrorist attacks especially concerns them. Consequently, the megacity remains in the news as a city in crisis, a city nearing collapse, a city increasingly falling out of governmental control.

In an environment where urban residents and city government officials are keen to ensure that everyday life continues smoothly, sociality is fast emerging as the critical mechanism for survival – and circulating information is its related modality. Residents and officials frequently share information relating to power outages, riots or security alerts in person or through traditional, broadcast and social media. Updates on riots, killings, robberies or muggings give residents clues on how to proceed and react. They review such information through having lived through (or having heard others' stories of living through) similar events in the city. Information is, therefore, a crucial tool in navigating the uncertain city.

In gathering related information, the police and other official security channels lose further credibility, having already lost much legitimacy from their inability to secure and control the city. Instead, charismatic figures and trusted technologies have gained more authority and reliability through years of service. Information shared by public personalities, security experts and popular talk show hosts increasingly informs public opinion; the public then share it through various media. These actors also play an important role in disseminating critical information to residents and urban authorities, helping them find ways to avoid crisis and manage insecurity's spatio-temporal uncertainties in Karachi's 'danger zones'.

While being an essential tool for governing everyday uncertainties in the complex megacity, such circulating information often perpetuates uncertainties regarding the city's future. It is thus important not to romanticise alternative ways of managing and governing everyday life in Karachi as a system that always works, nor to gloss over the gritty political realities associated with it. Tracing how particular security-related information is produced and circulated, it is apparent that security information may be exaggerated, flawed, biased or simply untrue. Moreover, the politics of circulated information remain murky to the public, who are often only concerned with using information to manage urban insecurity and other uncertainties.

Evidence suggests that the hugely popular news media, for example, is not entirely free of corruption or partisan positions. Senior politicians, bureaucrats or security officials sometimes plant news in the hope they will generate particular governmental outcomes. Here, producing news and information tells another story, one where the official and unofficial intermesh in ways that are often opaque to urban residents and other consumers. Predictive information further reveals its political nature when one considers how its circulation produces affective responses in urban residents. Information can not only generate feelings of paranoia, fear or frustration, but also dictate socio-economic outcomes such as urban relationships, movement, opportunities and investment. Travelling across different scales – local, national and global – the same information can have varied outcomes in different contexts and locations.

Circulatory information reveals its ambiguous politics when one thinks about the viewpoints considered, the sources selected, the audience addressed and the channels used. Take, for example, a situation in which a foreign consulate's security head sends an SMS alerting employees to the imminent threat of a terrorist attack on Karachi's shopping malls. This information may have come from the security head's personal network of friends who serve as top-ranking intelligence officers. The information shared in full confidentiality goes viral across Karachi. The SMS stops people from visiting leisure places in the city, bringing down commercial retailers' profits. At the same time, local media reports the climate of fear and its related economic effects in online and print newspapers. Foreign journalists pick up this news to report on the insecurity and Karachi's commercial future, projecting a negative investment outlook for the regional financial and business hub. Thus, the entanglement between official and unofficial flows of information and its local and global ramifications not only reveals how important security information is for managing spatio-temporal uncertainties in Karachi, but also highlights how such circulations may shape the city's future.

Similarly, statistics reporting an exponential rise in extortion threats to businessmen in Karachi, coupled with frequently reported incidences of gang violence, are fed into risk assessment algorithms run by companies based abroad which are tasked with creating abstract projections of risk and uncertainty across global cities. The mundane task of defining uncertainty and risk and hence deciding such megacities' futures rests upon experts and analysts from faraway offices in London, New York, Paris or Tokyo. Analysts interviewed in London reveal how they delve into information available from various news media while also tapping into a personally developed register of local informants. Credit ratings that project investor confidence feed the same information back into the city, which in turn influences how the anticipated future plays out in the present. The ensuing speculation and investment have immediate effects on the local economy as the market starts to react to an algorithmically-calculated projected future. In such a scenario, the exercise aimed at ensuring future certainty generates present-day uncertainties.

Moreover, news production's political realities are largely invisible to the public. Profit through increased viewership and sponsorship drives the televised news industry in Pakistan. Given how channel ratings are configured, Karachi dominates national news simply as it houses a dominant share of rating meters. Meanwhile, news in Karachi remains focused on crime, disorder and militancy simply because statistics show that crime sells. Feeding the public sensationalised news about Karachi ensures high viewership and increased ratings. Although such news may help residents navigate everyday life in the city, it also perpetuates fear and insecurity. News information advances an agenda of securitisation that divides urban residents into categories of safe and unsafe based on identity, political affiliation and place. Such identification-processes reproduce urban violence and insecurity by making marginal urban groups more vulnerable to police brutality.

Similarly, the dependency and trust placed on print and broadcast news, as well as news circulating through social media is problematic. In the absence of any systematic information regulation, political actors or police and security officials frequently exploit the system. Research suggests that the tight competition for breaking news stories, coupled with poor correspondent training and weak regulation over news media, frequently results in news channels unknowingly publishing and broadcasting stories they have been fed with particular reactions in mind. For example, news of a political worker's killing may be untrue, but may come via a trusted source in the police to encourage a violent reaction which could be used as a tactical advantage in making militant political workers reveal themselves. Once in the public domain, news information takes on a life of its own. It forms chains of reactions as it circulates over local and international media, picked up by residents trying to find clues for whether it is safe to head out to meet friends living in a certain locality, or analysts and forecasters at home and abroad trying to gauge Karachi's investment potential. Using information circulation as a way to understand uncertainty in Karachi, Pakistan's largest urban

agglomeration, it is evident that it both governs and produces the city's uncertain future. The competing futures – a thriving economy and a chaotic, insecure city – coexist in the present and live through mediated information in this globally minded metropolis.

Despite frequent crisis, residents are able to navigate fairly successfully spatio-temporal uncertainties, of urban life and economy. The violent megacity continues to function and move forward as urban residents, governors and planners devise ways to mediate insecurity while business carries on as usual. In the face of prevalent insecurity, Karachi continues to attract and absorb migrants, generate economic value and foster urban life. Facing unprecedented violence, the otherwise throbbing city may skip a beat, but it is quick to bounce back and carry on. Karachi's story therefore invokes an urbanism that is reactionary but also opportunistic. Times of crisis reveal how the city finds ways to function through its own logic and urban life seems to push forward organically. Information opens up possibilities for creating systems that ensure functionality in an otherwise difficult city. Nevertheless, it is also a volatile medium that politically-motivated actors can use to violently subject urban residents or to strategically manipulate outcomes. Meanwhile, crossing multiple scales and being used by differently positioned actors for various purposes, such circulated information in Karachi also generates negative discourses and bleak outlooks, perpetuating present day uncertainties.

[1] Khan, T. (2013) Cooking in Karachi. Foreign Policy. Available at: http://www.foreignpolicy.com/articles/2013/09/03/cooking_in_karachi_meth_pakistan. (Accessed: 21 February 2014).

Given the hype surrounding violence and insecurity in Karachi, paradoxically, the city's murder rate is much lower than Johannesburg where it is 30.3 per 100,000 people, or Bogotá where it is 16.1 per 100,000 people.

UGANDA: WASTE(D) INFRASTRUCTURES

Dr Jonathan Silver

Uncertain climate futures

Responding to climate change is increasingly positioned as a key dimension of urban governance. Over the coming decades cities need to adapt and to mitigate the worst effects. While governments are making significant progress, such new imperatives are generating unexpected arrangements as they grapple with an indeterminate future and multiple forms of uncertainty. From the uncertainty inherent in atmospheric modelling, through to the imprecise knowledge about expected impacts, and the lack of consensus on appropriate responses, a fluid landscape of uncertainty pervades attempts to address climate change on the urban scale. Central to governing climate uncertainty are financial issues; that is, how to fund the significant transformations across urban infrastructure systems required to respond not just to today's imperatives of poverty, sustainability and development but also to tomorrow's carbon and climate unknowns. Mitigation spending has been estimated at up to $175 billion per annum and adaptation spending at up to $100 billion per annum.[1] Such large sums suggest transforming (urban) infrastructure systems at a planetary scale are urgently required. However, financial flows remain woefully below these estimated levels and instigate a further series of uncertainties for politicians, policy-makers and communities as to how they might achieve such significant infrastructural investment.

Responses to financing climate-change mitigation at an urban scale are partly orientated around the promise and allure of carbon markets and instruments such as the Clean Development Mechanism (CDM). Since the Kyoto Protocol in 1997, these markets have become integral to global responses to climate change; they suggest reconfiguring cities and capitalism more widely around decarbonisation. Yet these financial pathways for infrastructural investment remain uncertain in their effectiveness and riven by ongoing debate about whether markets can help mitigate climate change's worst effects. Attempts to address climate futures predicate a cascading uncertainty across towns and cities, because as anthropologist Jerome Whitington asserts, "they invite speculative anticipation of the future"[2] based on ongoing uncertainty about measurement, use, price and longevity. Carbon markets' instability and speculative nature, where market efficiencies are framed as the solution to global warming, have thus provoked severe criticism to the logic informing this response to climate change, and confusion about urban areas securing such investment. Such an uncertain financing landscape prompts the need to reflect on the potential futures generated by travelling such carbon finance pathways.

Thinking beyond the megacity

With over half the world's urban population living in cities of less than 500,000, urbanisation in such urban centres may be different from the high profile megacities that have come to dominate visions of our urban future. In India, for instance, much of the country's rapid urbanisation is taking place outside of the global gaze on cities such as Delhi, Mumbai and Bangalore, with estimates that 64% of the urban population is based in towns and cities of less than 1 million.[3] These dynamics pose multiple challenges for addressing climate change imperatives within urban contexts. Thus, while high profile cities across the Global South and North are enrolling in city-to-city learning networks such as C40 – through which they attempt collectively to navigate the landscapes of financial, climate and infrastructural uncertainty – smaller towns and cities remain excluded from these conversations. Although global networks and relationships might be playing an important role in navigating and negotiating financing landscapes elsewhere, actions in these 'off-the-map' cities are less visible, perhaps even invisible, in these debates, flows of investment and emerging experimentation. A lack of finance, strategic planning capabilities and access to expertise often hinder such cities and towns, while they are simultaneously facing the need to deliver basic services, address widespread poverty and deal with emerging biophysical dynamics. They therefore occupy a tentative, undetermined position in wider discourses concerning urban mitigation. Their unfolding responses to these futures, taking place across much of the urbanised world yet often hidden from global debates, offer valuable reflections, not just for similar sized urban areas, but across a range of different urban contexts.

Mbale's waste(d) infrastructure

Mbale, in eastern Uganda is one such town that may offer some insights into urban life beyond the megacity. As climate change increasingly becomes part of the present, rather than the future, cities scramble to secure financing to underpin responses to these uncertain landscapes. While Mbale is the third largest urban area in the country, with a population of around 100,000 living under Mt Elgon's shadow, it remains outside current global and regional debates about climate change, barely registering on maps of learning, knowledge exchange and production, and peripheral to attempts to urbanise the climate-change agenda. Furthermore, with limited local-government financing and a series of ongoing development issues – including abysmal roads, slums without basic sanitation or water networks and disease outbreaks such as cholera – Mbale faces multiple uncertainties as it aspires to city designation and regaining its historic status as "the cleanest town in East Africa".

Recent investments in a waste management project place Mbale at the forefront of carbon-financing experiments that present opportunities to address a series of wider urban imperatives. It joins other Ugandan towns and cities in a new form of infrastructure investment aimed at: addressing waste issues in the town, mitigating Green House Gases (GHG) and generating ongoing financing through the CDM (Clean Development Mechanism). Mbale thus in many ways leads the issue of how urban authorities navigate multiple forms of climate-driven future uncertainty, and generates a cautionary pause about the direction in which towns and cities may be travelling. On the surface, the Uganda Municipal Waste to Compost Programme appears to offer the answer. The municipality has an opportunity to upgrade its waste infrastructure by developing new ways to manage it. The new system would include a regular waste collection at 25 points across Mbale; the waste would be taken to a nearby facility and transformed into compost, rather than the GHG methane that would be emitted if it were dumped. Such waste infrastructure should help to manage the rubbish piles, often named after local politicians by frustrated residents. It might even help Mbale regain its reputation as a clean (or even the cleanest) town, as well as addressing the health and poverty issues that emerge from its inability to process up to 100 tonnes of waste a day. Transforming waste into compost would seemingly add value to Mbale's rubbish and, crucially, stop methane emissions from leaving the waste site. Furthermore, these savings, converted into so called 'carbon credits', could be traded via the CDM on global carbon markets and generate revenue to be reinvested in the town's infrastructure, another apparent benefit of connecting to this form of investment.

In reality, a visit to the site reveals workers on strike and waiting for unpaid wages, no compost processing being undertaken, few deliveries of collected waste from around the town and a project that seems to have partly collapsed. Such a scene provides a visible indication that this attempt to marshal CDM financing for infrastructure investment is sadly failing. There were implementation difficulties, but, considering the wider market logic of the investment that mediates its delivery, reveals the problem with mobilising carbon markets to not only address mitigation, but also to address the wider urban imperatives that are being invoked in promoting such investment.

The World Bank and Uganda's National Environmental Management Authority designed Mbale's intervention as urban Africa's First Programme of Activities (POA) under the CDM.[4] The motivation for developing POAs is to address the difficulty that towns and cities, like those in sub-Saharan Africa, have in accessing financing through carbon markets by including replicable projects with low and distributed GHG reductions into the CDM. Yet, from the very start, the competing logics of seeking to address mitigation objectives with the transformation of waste collection within the context of Uganda's under-resourced municipalities created conflicts. The World Bank very much initiated the project, so the emphasis on mitigation and showing the value of the increasingly discredited CDM shaped the project. The main focus was thus not on

waste management per se (Mbale's priority). Primarily, the problems implementing the scheme were the under-resourced municipality's ability to operate the scheme and to generate the revenue to keep it running. Insufficient resources, like collection vehicles, resulted in rubbish piles (if smaller than previously) characterising the urban landscape. These dynamics caused periods of inactivity where waste was not collected and projected methane emission savings were thus not attained. The project now faces the reality of failing either to produce mitigation action or to significantly improve waste management in Mbale. Furthermore, displacing former waste-pickers from the site, the contractor failing to pay on time or an adequate wage, and continued waste issues in informal settlements, have meant that the project enfolds new uncertainties into the existing ones for some of Mbale's most impoverished residents.

What becomes clear when considering Mbale's carbon experiment is the problem markets have managing climate-change uncertainties. Marketising the atmosphere, needing to address multiple policy imperatives, and towns and smaller cities' difficulties in accessing as well as implementing this form of financial investment do not seem to offer any resolution in forging a more certain future. The over-riding logic of creating value from waste through compost and the carbon market shapes a particular form of investment in Mbale's infrastructure; one that signals a commodified vision of climate change response which the municipal government is, due to a lack of alternative options, forced to adopt. As such, the municipality's attempts to find local solutions severely curtails its autonomy, as the World Bank seeks to explore ways to make good on an increasingly discredited carbon financing system's promise. Here, we see how particular logics around commodifying the atmosphere (from which the carbon markets have sprung) foreclose other potential non-market and more localised ways to address an uncertain climate future.

Carbon futures

Navigating the contradictions and complexities of this CDM investment and the particular agenda it embeds in local governance are not challenges Mbale is facing in isolation. Across the Global North and South, towns and smaller cities are experiencing multiple forms of uncertainty concerning carbon financing as an option for funding mitigation and addressing other urban imperatives. Unable to rely on the financial options open to megacities (including taxation, loans, large-scale grants and so forth), towns such as Mbale remain at once hesitant, overawed and reactive to carbon financing's shifting, uncertain global landscapes. Through the need, and even desperation, to welcome all types of investment, despite the potentially problematic nature of funding such as the CDM, the urban futures of places such as Mbale becomes deeply entwined with the logics and objectives of global institutions such as the World Bank rather than with the concerns of communities and the agenda of local policy-makers. This is a milieu in which a speculative, commodified approach to climate change is generating new geographies of investment and forms of urban governance, yet failing to offer a more certain future.

[1] World Bank
[2] Whitington, J. (2012) The prey of uncertainty: Climate change as opportunity, *Ephemera Journal* 12(1/2), pp.113-137. (http://www.ephemerajournal.org/sites/default/files/12-1whitington.pdf)
[3] Indian Census (2001) (http://infochangeindia.org/urban-india/cityscapes/indias-small-towns-symbols-of-urban-blight.html)
[4] Under a programme of activities (PoA) it is possible to register the coordinated implementation of a policy, measure or goal that leads to emission reduction. Once a PoA is registered, an unlimited number of component project activities (CPAs) can be added without undergoing the complete CDM project cycle.

WORKSHOP SERIES: CITIES COVERED IN PART 2


Utøya
Oslo
Birmingham
London
Venice
Baku
Jerusalem
Baghdad
Abadan
Karachi
Dholera
Mumbai
Guangzhou
Bangkok
Monrovia
Sekondi-Takoradi
São Tomé
Kigali
Lamu
Kinshasa
Dar es Salaam
Luanda
Maputo
Durban

PART II:
WORKSHOP SERIES

PART II: WORKSHOP SERIES

Actively engaging with the wider academic and policymaking community was one of the project team's key priorities. To this end, team members have published in-depth empirical research in online blogs, newspapers and leading academic journals across a range of fora both locally and internationally. In the previous section, we shared a selection of these publications. This section summarises another key element of the project: the Urban Uncertainty Workshop Series.

As the empirical investigation progressed, its scope broadened to include issues beyond the interdisciplinary team's theoretical, thematic and area expertise. We needed empirical and theoretical research across different contexts to understand more broadly what uncertainty means for contemporary urbanism. And so the workshop series was born.

Over three years, the project team organised 10 workshops and three special events, which garnered great scholarly as well as public interest. The events brought together a total of 64 scholars and practitioners from 41 institutions across the world. We invited scholars from a range of disciplines, but who are all urban-affairs specialists. Although not all had explicitly worked on uncertainty in the urban context, each capably addressed the project's core concerns through their own conceptual frameworks and empirical research. They also, as part of the workshop, joined in a broader conversation with the public around related interests and concerns.

The workshop-series events have been instrumental in broadening the project's scope beyond the interdisciplinary team's expertise and they generated discussions, debates and collaborations that continued outside the series. Project team members' individual research and the event participants' presentations have been published in online blogs, newspapers and leading academic journals. Debates and discussions have continued, with workshop participants inviting project team members to participate in sessions in their institutions. The workshop series – and the subsequent activity – has thus played a significant role in building the project's relevance and momentum within both academic and policy domains. We provide here a record of what transpired.

Between Life and Death in Kinshasa
Film still: Filip De Boeck


VIVRES FRAIS

SEATTLE
LONDON
VENICE
DURBAN
BUENOS AIRES

FLUID UNCERTAINTY: PROSPECTS OF URBAN WATER

30 April, 2013

Panellists: Prof Matthew Gandy (University College London), Dr Rita Samiolo (London School of Economics), Dr Andrew Karvonen (University of Manchester), Dr Sarah Bell (University College London), Dr Alex Loftus (King's College London), Dr Michael Guggenheim (Goldsmiths, University of London)
Chair: Dr Austin Zeiderman (London School of Economics)

Moving beyond conventional debates on water infrastructures, this workshop focused on how attempts to anticipate and prepare for future hydrological events – like flood, drought, contamination and runoff – shape urban socio-political life today. Speakers considered this question through their work across a range of cities, focussing on themes of resilience, and respecting and working with the socio-natural landscape.

Starting with dystopian scenarios of London under water, Matthew Gandy – drawing on a chapter, 'Fears, Floods and Fantasies: Inundation of London', from his book – discussed how flooding in London could have catastrophic effects on nature, economy and society that would extend well beyond the metropolis. What is the best way to approach the threat? Competing visions for managing future flood risks lock planners and policymakers in argument. Adaptation or resilience? The latter approach increasingly appears in such debates. Would large-scale techno-managerial infrastructure projects such as the Thames Barrier or smaller-scale interventions focused on ecological restoration across the flood plain be more suitable? Gandy considered how these responses might play out and the ways in which uncertainty mobilises political and governmental responses. Above all, he urged scholars and practitioners to consider nature's powerful agency and develop progressive responses beyond existing techno-centric fixes.

Rita Samiolo also discussed the notion of resilience vs. nature in her presentation: 'Fixing Nature and the Economy: The Controversy Over the Flood Protection Scheme for Venice'. Venice's history as an ancient republic and its relationship with the Venetian Lagoon – both past and present – are inextricably tied to flood-risk management. Experts' representations of Venice's history, economy and nature guide intervention. More broadly considered, we can view equilibrium and resilience as natural, competing properties to be preserved or as forces of human intervention and politics produced by uncertainties.

Examining the tension between nature and technology through Seattle's economic expansion, Andy Karvonen introduced the engineer as a modern-day Prometheus – one who could tame nature-related uncertainties through technology to enable human exploitation. In his talk, 'Manufacturing Uncertainty: Taming Urban Water Flows in Seattle', he noted that while human-environment interactions and infrastructure developments seek to tame nature, they ultimately create new uncertainties. These questions thus raise new pressures on further transforming the industrial city's landscape. Going forward, governments' key challenge when working with inherited landscapes is recognising that uncertainty and risk cannot be engineered out. Instead, planners and engineers should create flexible designs, which recognise that urban uncertainties are inherent to the city's socio-natural landscape.

Continuing with the idea of more flexible designs that respect this socio-natural landscape and uncertainty's place in it, Sarah Bell questioned what cities would look like if those in power acknowledged the limits to human control over water. In her presentation, 'Renegotiating Water in Cities: Water Sensitive Urban Design', Bell credited feminist urban scholarship with highlighting cities' masculine-feminine power dynamics. She drew parallels between such dynamics when considering how urban control and discipline mechanisms – in the form of water infrastructures and technologies – attempted to "tame" water. For instance, when governing water-related uncertainty, "hard" technical solutions often dominated over "soft" social processes. Bell challenged those working on solutions to reconsider water as a partner to shape urban settlements and culture rather than as a force to be mastered.

Alex Loftus focused on power within an urban, political and ecological framework in his talk: 'Rethinking Political Ecologies of Water'. Drawing on studies of the privatisation and commercialisation of water provision in Buenos Aires and Durban, Loftus detailed the politicised environment within which different actors – including the state, NGOs and union organisations – worked to ensure water supply in low-income settlements. Focussing on the power dynamics in these relationships, he considered how these forces shaped urban water provision. As with the other speakers, Loftus outlined ways to re-think urban uncertainty. Questioning the current forms of praxis, he put forward a more reasoned approach, speculating if a socio-natural politics could exist. Framing urban uncertainty more dialectically could help us all to better understand the politics of uncertainty.

Also questioning the status quo – but in the form of natural disaster preparedness – Michael Guggenheim looked at how disasters are enacted, materialised and represented in test conditions. In his talk, 'Form of Exercises: Water as Demonstration and Test', he emphasised how such exercises continue to be enacted – even though they are different to other scientific experiments – because disasters and their ensuing events are difficult to recreate. Taking, for example, the 2011 Exercise Watermark, the largest flood exercise held in the UK, Guggenheim illustrated how uncertainty prompts certain types of "pretend" activities so people can prepare for a disruptive event. In this case, it also represents a continuously changing relationship between floods, experts and participants. The danger in these made-up activities, he points out, is that they cast people in particular roles – passive or active, central or peripheral, professional or non-professional – and this inevitably shapes how actors react to real situations.

Concluding with a question and answer session, participants discussed uncertainty's varied, temporal and historic nature. Reflecting the day's themes they considered how uncertainty affected the urban arena – reshaping urban socio-political relations or capitalising on new markets – and its political possibilities: how it can help shape democracy and create conditions for equality and exercising one's rights as a citizen. Finally, the participants debated the politics of uncertainty: Who profits from associated dynamics? Who decides what is certain/uncertain in cities? How are emergent power-relations spatialised? As the authors intimated, the answers are constantly changing, but taking a dialectic approach that keeps the socio-natural landscape at its core can help navigate the issues that arise.

OSLO
UTØYA
LONDON
SWITZERLAND
KINGSTON

CATASTROPHIC URBANISM: DISASTER, EMERGENCY, CITIES

28 May, 2013

Panellists: Prof Peter Adey (Royal Holloway, University of London), Dr Joe Deville (Goldsmiths, University of London), Dr Claudia Aradau (King's College London), Prof Monika Büscher and Dr Michael Liegl (Lancaster University), Dr Kevin Grove (Aberystwyth University)
Chair: Dr Austin Zeiderman (London School of Economics)

Catastrophic events – actual and potential, real and imagined, past and future – were this workshop's focus. Panellists looked at how the force of these events affects politics and governance, the built environment, popular culture and everyday life. They discussed the ways in which emergency, governance and urban space intersect, and how we can plan, manage and govern related uncertainties.

Peter Adey started the day with his talk on major evacuations: the Japanese-American internment during World War II, the island evacuation following the Haitian earthquake, Federal Emergency Management Agency coordination during Hurricane Katrina, and evacuations during civil war and conflict. Through these cases, he explored three distinct domains of evacuation: mobility, emergency and aesthetics. While each evacuation operates uniquely, depending on the situation, they all use similar logics of organisation, spatiality, rationality, power, regulation, and professional knowledge of coordination and direction over multiple geographical scales. Potential catastrophes, therefore, are contextually and culturally specific; civil and state imaginaries lead responses based on the threat level. In preparing for potential emergencies, it is crucial to develop evacuation-aesthetics that provide ways to visually record, witness, report and archive the event. And when faced with an evacuation, Adey argues that it is most important to gauge the urgency and act decisively to ensure mobility.

Continuing the conversation on preparing for and reacting to crisis situations, Joe Deville examined nuclear preparedness and bunker construction in Cold War Switzerland in his presentation: 'Producing Risk: Calculating, Materialising and Illocuting the Threat of Nuclear War'. He identified three distinct mechanisms that interact and potentially contradict each other: 1) risk assessment, including both formal and less technical means of calculating risk; 2) risk materialisation, how risk is transformed into a socio-material entity; and 3) risk illocution, producing risk through speech and linguistic activity. During the Cold War, the Swiss government declared the nuclear threat the most pressing risk to citizens, meriting a comprehensive national response. Without actually carrying out a risk assessment, they started producing bunkers, which caused the threat of a nuclear attack to spread across the country. A post-Cold War report that calculated risk by quantitative risk assessments, however, caused controversy: it did not consider the nuclear attack scenario high risk to the nation. This scenario highlights the paradox of risk materialisation in uncertainty: producing and materialising risk often inhibits proper risk calculations.

Continuing the theme of risk materialisation, Claudia Aradau looked at critical infrastructure protection through a feminist-materialist perspective in her presentation: 'Catastrophe/Crisis/Critique: A Feminist Reading of Critical Infrastructure'. Indispensable and essential to daily life, critical infrastructure is defined by its potential to be incapacitated or destroyed through catastrophe and

disaster. The London 2012 Olympic Games' high-security perimeter fencing and barriers, and the discourse security experts used to promote it, illustrate the "performative enactments" in critical infrastructure. These enactments affect boundary making, marginalisation and exclusion. The fencing around the Olympics, for instance, created boundaries and reshaped East London; it also protected against natural hazards. Incorporating a feminist materialist angle into critical infrastructure protection, Aradau concluded, can make uncertainties in social reproduction easier to see.

Moving to data mobilisation, Monika Büscher and Michael Liegl brought up the 2011 attacks in Norway to consider enhanced information and communication technologies (ICT) – or "systems of systems" – that organise data and minimise emergency-response deficiencies. In their presentation, 'An Accidental New Manhattan Project?: Systems of Systems Interoperability in Crises', they described the two sequential terrorist attacks in Oslo and Utøya carried out against the government and civilians. Following the attacks, information shared between the emergency operation teams and social networking systems could have greatly helped the emergency response team assess security, coordinate transport of victims off the island, and decide the best course of action. If the control room, for instance, had disseminated caller information about the perpetrator in a timely manner, they could have dealt with the Norway attacks more efficiently. Data mobilisation is now a key function in managing crisis and governing uncertainty. Through the Norway case, Büscher and Liegl highlighted how citizens making post-disaster enquiries, advanced technology-driven communication, and policy innovations that increase access to data are increasingly shaping how information is disseminated.

Going back to risk materialisation, Kevin Grove examined community-based, resilience-building initiatives in Kingston, Jamaica, where the Office of Disaster Preparedness and Emergency Management (ODPEM) started a participatory resilience recovery project. In his talk, 'Adaptation Machines and the Parasitic Politics of Life in Jamaican Disaster Resilience', Grove uses the term "adaptation machines" to define ODPEM's encounters with inner-city community leaders and explains how each group seeks, in differing ways, to appropriate the poor's adaptive capacities. ODPEM was "parasitically reliant" on the inner-city community's constitutive power, while the community operated on a hyper-adaptive capacity beyond necessary resilience construction. Neoliberal forms of resilience, he argued, rarely challenge existing political and economic structures. This is true in Kingston, where current disaster management programming works to depoliticise vulnerability. In so doing, the government fails to identify certain populations' varied adaptive capacities and it can also supress possibilities for equality and citizenship rights, that adaptation machines can produce. Two main themes for discussion emerged from the ideas presented. First, how we can know and understand uncertainties in catastrophic urbanism; second, the practical ways we can manage and govern disaster and emergency more fairly and efficiently. Ultimately, the biggest questions dealt with different understandings of uncertainty – who decides what is uncertain? – alongside the inherent power dynamics.

SOUTH AFRICA
DAR ES SALAAM

THE PANDEMIC CITY: GOVERNING URBAN HEALTH AND DISEASE

26 June, 2013

Panellists: Dr Javier Lezaun (University of Oxford), Dr Carlo Caduff (King's College London), Dr David Reubi (Queen Mary, University of London)
Chair: Dr Austin Zeiderman (London School of Economics)

Examining uncertainty through "the pandemic city", the panellists in this workshop considered how orienting towards future pandemics shapes the way we govern urban spaces, populations and bodies. Highlighting how cities become places of medical expertise and intervention, the speakers looked at how urbanism serves as a way to think about topics such as fitness and disease.

Looking at the uncertainty inherent in disease prevention, Javier Lezaun examined public health intervention in Dar es Salaam's Urban Malaria Control Program (UMCP). In his presentation, 'Vectors of Disease and the Pragmatics of Separation: Mosquitoes and Malaria in Dar es Salaam', he described how the UMCP (a municipally directed initiative) asked local paid-volunteers or Community Owned Resource Persons (CORPs) to regularly identify and inspect all open water where mosquitoes breed, and chemically treat it. The mosquitos are increasingly adapting to the city's changing nature, making the CORPs' task even more complex. In Dar es Salaam, larvae are able to survive in highly polluted water and feed during the daytime, rendering mosquito nets increasingly inefficient. Moreover, malaria's geography is changing. No longer limited to the urban peripheries, the disease is now prevalent in the city centre. To most effectively prevent malaria, Lezaun argued, it is important to shift the disease outlook from a fixed geography to one that has potential hotspots or intersections of humans, mosquitoes and parasites. Envisioning the city as a collection of

hotspots allows us to consider epidemics differently and to develop public health intervention based on a multi-species ethnography, not simply through control. At present, Leuven noted, the UMCP is trying to change the intervention from one of control and eradication to one of repetitive attention. Routinising this highly labour-intensive process where people stay alerted to constant changes in urban conditions would more effectively target the constantly changing disease vectors.

Continuing with the idea of collective information, Carlo Caduff looked at how rising technology-driven disease surveillance – tracking and sharing epidemic events in real time – is revolutionising public health. Examining "smart-city" systems through case studies of influenza outbreaks in his talk, 'Sick Weather Ahead: On Data Mining, Crowd-Sourcing and White Noise', Caduff points out that technology is often seen as efficient, rational, immediate, transparent, flexible and participatory. He questioned, however, whether this real-time epidemiological intelligence is an effective way to govern urban health or is it purely "techno-fetishism"? Establishing facts or a significant biological event is difficult with the constant deployment of information. Moreover, given the vast amounts of data and information that smart-city systems gather, any attempts to improve the signal-to-noise ratio is both a technical and political issue. Paradoxically, the system's flawed nature – emitting false signals – is what constitutes both its sensitivity and functionality. This "white noise" contributes to the uncertainty of emerging infectious diseases in automated systems. When healthy individuals search online for disease information – for their own knowledge or to track on-going epidemics – this adds to the noise and the data skewing. Health surveillance is expanding and using the public in different ways, but it still operates on incomplete information.

Changing tacks, David Reubi discussed the conditions of possibility that allow governments to implement anti-smoking policies. In his talk, 'Building the Smoke-Free South African City', Reubi identifies shifts in three domains of urban life and governance that have enabled this "smoke-free" South African city. 1) New forms of knowledge; once concerned with controlling infectious diseases, public health policy now needs to address smoking as a critical issue. Introduced as the dark side of modernity, transnational development experts persuaded public health officials to consider smoking and chronic disease as developing countries' dual burden and tobacco control became an official mandate. 2) The politics of the "rainbow nation" and the post-apartheid government. South Africans consider smoking to be primarily a "white" problem, yet paradoxically the black-majority ANC government took the anti-smoking movement on. The activist campaign resonated with the post-apartheid political project, a retributive strategy against (mainly) Afrikaner-owned tobacco corporations. 3) An "assemblage of spatial technologies" to control urban spaces. This includes labelling public spaces smoke-free zones, creating designated smoking areas, and developing new inspection systems to monitor violators. Knowledge, political alliances and spatial technologies' role in implementing smoke-free cities denotes an important shift in South Africa's urban governance.

Picking up on the theme of public health structures' effect on cities, participants in the conversation afterwards discussed how attempts at governing the pandemic city developed and created new public cultures around specific interventions. Using technology to map health emergencies or sickness onto specific locations was, they agreed, a novel way to approach pandemics. The audience questioned, however, technology's practicalities, its limitations and its ethics. Knowledge is key to governing urban health and disease, but may also produce uncertainties. The government clearly ordered current malaria-prevention practices in Dar es Salaam, for example, through hierarchical knowledge that does not accurately reflect practitioners' experience. On the other hand, online influenza monitoring, for instance, requires experts to depend on public knowledge – reversing the knowledge hierarchy.

MAPUTO
LAMU
MUMBAI

NETWORKED FUTURES: THE POLITICS OF URBAN INFRASTRUCTURE

27 August, 2013

Panellists: Prof Lindsay Bremner (University of Westminster), Dr Nikhil Anand (University of Minnesota), Dr Idalina Baptista (University of Oxford)
Chair: Dr Austin Zeiderman (London School of Economics)

Looking at infrastructural connections and disconnections within and between cities, this workshop focused on material infrastructures as sites of urban politics, planning and governance. It asked how we manage urban infrastructures in the face of ecological, economic and political uncertainty.

Starting the day on the island of Lamu off Kenya's northern coast, Lindsay Bremner discussed how globalisation transformed this "not yet" city in her presentation: 'Towards a Minor Architecture at Lamu, Kenya'. Prompting the overarching question of what is a city and who forms it, Bremner explored how global infrastructure can reach cities not yet fully formed and how fragile ecologies can shape power, resistance and global urban citizenship. Demonstrating how the port acts as part of a global circuit, Bremner introduced the concept of the

"folded ocean" – or the sea as a hybrid between culture and nature, a place of global interconnectivity. Lamu's regional interests evolved towards security and resource extraction as the port was transformed into a container port and oil transportation corridor. Operating as a free trade zone, this corridor represents one of globalisation's most ubiquitous technologies, a logic replicated around the world with little regard for local complexities. The danger with such technologies is that foreign capital investment can sidestep labour, environmental and human rights regulations, creating states with new violence and adverse social change. Urban residents, however, do have the potential to challenge such projects. Discussing the various forms of resistance in Lamu, Bremner defined "minor architectures" as the strategies and language a minority use to subvert the status quo. Protests like this do not particularly resist the project; rather, they ensure that the minority benefit from the port expansion. The activism in Lamu particularly helped forge links between diverse groups and international organisations, although this led to different entanglements. Globalisation brings connection, but also new struggles.

Continuing the theme of traveling technologies and their unintended consequences, Nikhil Anand discussed India's prepaid water meters. In his presentation, 'Consuming Citizenship: Prepaid Meters and the Politics of Technology in Mumbai', Anand described the Mumbai government's problems with water accounting and subsequent proposals to initiate water metering. Urban activists – exercising their "rights" – challenged proposed reforms. They failed to take into account, however, that recently migrated, poor Mumbai residents might actually prefer such technology as it allowed them to access low-cost public water in a city where they otherwise had no legal claim to it. The prepaid meter was not a neoliberal technology intended to diminish residents' liberal citizenship. Rather, it politically empowered those who faced high water prices most acutely. To complicate the matter further, the political debate on the proposed meters during the highly scripted public consultation process effectively obscured the new technology's actual workings. According to Anand, debates over the state's neoliberal rationalities should be considered alongside the current infrastructure and its actual workings. Even if all political parties agreed to install the water meters, they would need to consider the water schedule's physical, temporal and social pressures. Intended to solve the problem of the "always incomplete" liberal government, many residents welcomed the pre-paid meters. Neoliberal projects are thus not entirely inconsistent with progressive politics.

Approaching pre-paid metering infrastructures and technologies through Maputo's electricity provisioning, Idalina Baptista argued in her talk, 'Electric Urbanism: Everyday Practices of Prepaid Electricity in Maputo, Mozambique', that prepaid meters could expand the critique of urban energy infrastructures' neoliberal reforms. In Maputo's post-civil war environment – where many already used electricity judiciously – prepayment is an especially empowering technology. It enables "disciplined autonomy" where people can avoid dealing with utility providers, understand their electricity usage and manage their spending. Pre-paying also encourages "divisibility" where users can estimate and buy electricity in variable increments to control and shape their consumption. Conversely, it can unsettle existing social relationships with family members challenging each other's usage. Baptista's research looked beyond prepayment as a governing technology or through economic frameworks and argued that it could enable sociability and politicisation. Installing prepayment technologies, for example, could develop other political, familial and technical relationships in the community beyond that of consumer and provider. Moreover, prepayment users who limited their electricity usage, often identified existing corruption and inequality, tying prepayment to unfairly low salaries.

Given the political subject, in the ensuing conversation, participants considered technological infrastructures' political capacity; they discussed the materials, practices and imaginaries that unite to pursue networked futures. And what of individualised technologies? Questions raised included: What are the possibilities of initiating and sustaining collective action through these networks? How do different forms of sociability through such technologies offer a way into viewing a new urban politics? What are the consequences of infrastructure privatisation and individualisation? Finally, the group discussed the varied contexts within which similar technologies can be applied, even though such applications may follow different rationalities, have different agendas and mobilise different politics.

GUANGZHOU
DHOLERA
MUMBAI
KINSHASA
DURBAN
SOUTH AFRICA
INDIA

SHIFTING GROUND: THE PRECARITY OF LAND ON THE URBAN PERIPHERY

30 January, 2014

Panellists: Prof Filip De Boeck (University of Leuven), Dr Kamna Patel (University College London), Prof Deborah James (London School of Economics), Dr Vandana Desai (King's College London), Dr Ayona Datta (Leeds University), Dr Hyun Bang Shin (London School of Economics)
Chair: Dr Austin Zeiderman (London School of Economics)

Bringing together six speakers from different disciplines who study urban land issues in cities across the Global South, this workshop focused on the uncertainties inherent in land tenure and housing on the urban periphery. Panellists explored how uncertain status of titles, plans, regulations, speculation, dispossession and ownership informs how people experience and conceptualise land. Understanding this uncertainty helps to navigate the disputes and negotiations over urban space.

Reflecting on his fieldwork in Kinshasa, Democratic Republic of the Congo, Filip De Boeck kicked off the day by exploring urban expansion in Cité du Fleuve, a new development planned for the marshy land along the Congo River. Chosen to avoid the complex land-ownership disputes elsewhere in the city, the site did not seem to belong to anyone. In reality, however, urban farmers had reclaimed the land bit by bit and turned it into a site for kitchen gardens and a thriving fruit and vegetable market. In order to build Cité du Fleuve, this reclaimed part of Kinshasa would disappear, sparking disputes between farmers, the municipality, developers and local chiefs. Moreover, the local chiefs had claimed the river as ancestral land and sold off parcels to farmers, thus already laying claim to establishing tenure. Putting these land development issues in context, De Boeck pointed out the complex land-ownership norms, laws and regulations from pre-colonial, colonial and post-colonial times. Occupation partly defines land ownership in Kinshasa, and this has become a prevalent strategy for Kinois. Huge tension therefore exists between the legal frameworks and the fluid situation on the ground. The ability to be mobile, to occupy land, to retreat, and to use it strategically is a key tactic for residents in a city where land rights have never been well defined and have been shaped by (pre-colonial) customary law and (post-colonial) governmental notions of ownership. De Boeck explained how traditional land chiefs are central to navigating these uncertainties of ownership. This is particularly true along the city's periphery, where they continue to play a crucial role in selling, laying claim to, or occupying land without themselves owning formal land titles.

Kamna Patel took the housing discussion to eThekwini (Durban), South Africa, where she examined the local criteria for accessing housing in selected settlements. The high political stakes, social tensions and conflicts associated with housing access, service delivery and upgrading led to conflicts that affected citizenship, identity and inter-communal relations. Trying to subdue tensions following the shack dwellers' protest against poor service delivery in the Cato Crest neighbourhood, the state pushed forward informal settlement upgrade programme across eThekwini. The upgrade selection process is highly decentralised – municipalities and settlement-level actors play increasingly important roles in land development and settlement – which generates uncertainty as well as conflict. Rather than resolving tensions, it deepened fault lines across political, ethnic and national identities. Taking Gum Tree Road in North Durban as an example, Patel looked at how applicants used political and ethnic affiliation to negotiate their land and housing selection. Highlighting the biased selection process as well as the apartheid-era tensions between the Inkatha Freedom Party (IFP) and the African National Congress (ANC), the old divide and rule tactics continue to provoke antagonism and shape informal settlements' preference criteria. Ethnicity was also a crucial factor in contests over power and resources, Patel stated, as President Zuma's rise resulted in preference for Zulu applicants. In this environment, the land development and settlement process became increasingly xenophobic and resentment against foreigners sometimes manifested in outright violence. The current disputes around the participatory planning process threaten to exacerbate existing urban divisions as well as create new ones, making the future even more uncertain.

Continuing on the subject of urban land and uncertainty in South Africa, Deborah James examined property, credit and repossession to understand how the global credit crunch affected the country. The inherent tensions that the localised nature of the global financial system creates – large-scale capitalism competing with localised forms of exchange for instance – particularly affect the urban poor and women in South Africa. Probing the complexities of "credit apartheid" – looking at how households, capitalist values and credit financing's legalities interact – James underlined the ongoing tension between competing visions of property ownership as a market commodity and as an integral feature of a post-apartheid rights-based future. Property ownership is a fluid, hybridised concept and one that leaves some in South Africa – particularly single women – more uncertain and vulnerable. Ownership is

disputed not just at a national or urban level, but within households as families grow, divide and reconfigure. Domestic dynamics such as inheritance and marriage could, she explained, alienate and exclude particular household members, highlighting gender biases. Yet, in some cases, property ownership offers a level of security; it at least highlights ownership's complex challenges from domestic struggles to global capital flows. Ultimately, James articulated how far from reality a "free market" across South Africa's housing market is and the multiple forms of ownership – and thus uncertainty – that exist.

Moving on to Asian cities, Vandana Desai presented her work on slums in Mumbai, where physical infrastructure upgrades have encouraged dispossession and speculation following the rising rents and land values. Drawing on Marxian political economy and David Harvey's notion of land as a purely financial asset, Desai debunked the myth that rising house prices and land values in slum settlements indicate security among the poor. She demonstrated that, paradoxically, producing space through NGO-led slum upgrading was harmful to its residents. Drawing on her fieldwork, Desai argued that increasing land values made it harder for poor urban residents to secure tenure or even pay for housing, leaving women and the elderly even more vulnerable. Single woman households are rife in a northern Mumbai slum Desai looked at; most widowed women live as tenants and sublet in order to supplement income. By subletting, these older women act as landlords, purchasing other homes and developing diverse livelihood strategies. This arrangement not only empowers them and gives them financial independence; it allows them to supplement their income further by begging or working in the informal sector. Moreover, Desai explained that slum dwelling – where dense social networks supported the older women to ensure their daily survival – provided an optimal way for vulnerable women to live alone. When land markets were capitalised, it led to a constant state of mistrust and uncertainty for women who feared living on their own in a potentially violent environment with landlords looking to gain new properties. By focusing on women and the elderly, Desai discovered that in India, a housing-capitalisation model based on singular home ownership does not mean empowerment for all.

Ayona Datta also looked at land ownership in India, examining its radical transformation in India's newly emergent "smart cities" or instant cities. Large-scale infrastructural projects – the Delhi-Mumbai Industrial Corridor (DMIC) and the various smart cities that will be constructed along it – reflect the national government's aspiration to put India on the global economic map. Similar to the "uncontested" marshland in Kinshasa that De Boeck highlighted, the new Indian smart cities will be built on supposedly uncontested land. Pitched as a panacea to urban life's problems – a new frontier that will revolutionise infrastructural development, digital technology and industry – the smart cities were based on large IT companies' involvement. Tensions exist, however, between the government's stated objectives and the smart city's techno-centric governance. The government needs to consider these cities alongside their actual construction and technological configurations, within wider paradigms of mega-urbanisation and infrastructural development. The process disempowers some while enriching others (like landowners). Despite potential conflicts, however, smart cities are revolutionising how the post-colonial state thinks about itself and are creating radical transformations across India's society. For instance, they create competition among increasingly entrepreneurial Indian states. Even if the state achieved its highest objective – creating urban utopias that can address multiple socio-economic challenges – Datta questioned whether smart cities would address urban marginality and socio-spatial uncertainties for those on the periphery.

Shifting the discussion to China, Hyun Bang Shin focused on urbanisation dynamics and processes of accumulation by dispossession in contemporary Chinese cities. To facilitate capitalist urbanisation, the state plays a crucial role in addressing uncertainties across urban land markets. The Shanghai Expo's slogan: "better city, better life" translates into Chinese as "city makes your life better". The direct translation, he suggested, reflects Chinese urbanisation now. The government uses urban land-based accumulation strategies to stimulate and drive wider accumulation, thus the land's asset value contributes to the economy's assets. The dual land-ownership model in China, however, makes the urban future more uncertain. At present, urban land is state controlled whereas the rural (soon to be urbanised) land is under collectivist control. Land market-reform is needed urgently so the government may successfully transfer ownership of previously collectivist areas. Only if the state successfully navigates such uncertainties, Shin argued, could end users, such as property developers, buy the land. Despite plans to urbanise China, the state has been slow to reform present systems of land categorisation and ownership. As a result, widespread uncertainty exists, especially for farmers who live in rural land within urban peripheries. An area on Guangzhou's periphery was previously rural and collectively owned, for example, but the farmers relinquished ownership for compensation and are now within city limits. Due to associated dispossession costs, however, the state left the farmers' land, which they sublet to generate ground rents. These rents do not adequately compensate them, however, for losing their farming income. This highlights the widespread changes that recategorising the land produced. It reconfigured city boundaries, reshaped definitions of centre/periphery and created new uncertainties across China's urban land.

Reflecting on the speakers' topics, which highlighted the discourses and practices that shape future land security, participants focused on two intersecting themes in the ensuing discussion. First, how uncertainty emerged as a key feature in future planning, investing and governing urban areas. Second, how future urbanisation and related land transformation tend towards a speculative politics that often marginalises already vulnerable social groups.

SPECIAL EVENT: BETWEEN LIFE AND DEATH IN KINSHASA

Film Screening and Discussion
30 January, 2014

Speakers: Prof Filip De Boeck (University of Leuven), Prof Jennifer Robinson (University College London)
Chair: Prof Deborah James (London School of Economics)

Linked to the workshop 'Shifting Ground: The precarity of land on the urban periphery', this special event featured a film screening of *Cemetery State*, directed by Filip De Boeck, a prominent urban anthropologist who participated in the workshop. Deborah James chaired the film screen and Jennifer Robinson, a geographer and urban theorist, spoke at the end.

In *Cemetery State*, De Boeck toured us around Kintambo cemetery, one of the oldest and largest cemeteries in Kinshasa, the Democratic Republic of the Congo's capital. The city has increasingly invaded the cemetery over the years, shantytowns springing up alongside it. Camp Luka (also known as "the State") is one of these towns: here the living and dead cohabit.

Urban authorities officially closed the cemetery two decades ago, but the people from Camp Luka continue to bury their dead there. This astonishing, intimate film follows Papa Mayaula and his small group of gravediggers' daily dealings with the dead. Their activities introduce us to Camp Luka's youth: the "children of the State", for whom mourning rituals and funerals have become occasions to confront and criticise elders, politicians and preachers who they blame for the city's and country's problems. These young gravediggers, singers and drummers use the dead as an alternative platform to attack and challenge their elders, to create their own (dis)order and to appropriate the urban site.

The commentary and discussion that followed showcased how ordinary rituals and events have the capacity to disturb existing power relations and social order; in this case prompting tense interactions between government officials and urban residents, elders and youths, and traditional rituals and modern priorities.

Camp Kigali Belgian Memorial, Kigali
Photo: Dylan Walters

SOUTH AFRICA
LONDON
BIRMINGHAM
CARACAS
KINGSTON
PUEBLA

POLICING THE POSSIBLE: GOVERNING POTENTIAL CRIMINALITY

28 February, 2014

Panellists: Prof Gareth Jones (London School of Economics), Dr Rivke Jaffe (University of Amsterdam), Dr Robert Samet (Union College), Prof Jonny Steinberg (University of Oxford), Prof Pete Fussey (University of Essex)
Chair: Dr Austin Zeiderman (London School of Economics)

This workshop looked at policing as an activity that aims to control urban crime yet to take place. All five panellists – who study policing across different contexts – reflected on public and private security actors' roles in controlling potential criminality. They considered how such urban conditions foster uncertainty in contemporary cities and the authority and legitimacy of state vs. non-state actors.

Gangs and urban insecurity are rife in the Mexican city of Puebla. Since the governor's electoral victory in 2011, the city has become increasingly violent and the political climate more uncertain. Speaking through the experiences of Ramón, a young man from Puebla, Gareth Jones explored how the city had changed in his talk: 'Hecho en Mexico: Gangs, Identities and the Politics of Public Security'. The altered political climate after the election crucially changed the balance of power between the state and drug cartels. It certainly changed Ramón's fortunes. As a petty offender, he had had his share of interactions with the police and generally avoided them, but was not overly worried about them. Puebla's new military-style security environment, however, made him visibly anxious; he was increasingly involved in what he termed "awkward business". The state level police were perpetually hunting for contraband and drug cartel members and arrested Ramón for drug and knife possession. He served time under the new penal code, was released and then re-arrested; he is now serving a 20-year prison term. Puebla's new security environment has radically altered policing and is affecting innocuous petty offenders like Ramón. He has gone from an ordinary criminal to someone linked to transnational drug cartels; his identity has changed from *banda* (general troublemaker) to *pandilla* (dangerous criminal). His future – and the futures of others like him – is more uncertain. Ramón's changed identify, Jones argued, and his tumultuous yet inevitable transition from *banda* to *pandilla*, reflects the harder, more unforgiving line the police take on potential crime in Puebla.

Taking the discussion on speculative policing to Kingston, Jamaica, Rivke Jaffe introduced us to Dudus, a "Don" in Kingston's notorious Tivoli Gardens neighbourhood. The Don's arrest and extradition sparked violent protests from the locals, who looked to him for security and protection. Following the protests, the government declared a state of emergency and sent in security forces to police Tivoli Gardens and regain control. Traditionally, the police reacted to crimes that had already taken place. Setting up checkpoints and imposing curfews were not usual policing methods; they were now trying to anticipate and prevent crimes by carefully monitoring residents. Such speculative, place-specific policing practices, Jaffe argued, tie into future-oriented, real estate speculation strategies that demand more secure urban space. In such areas, the military police is often employed to support municipal police, displacing the Don's authority to make "no-go areas" more governable. Resulting police operations require residents to carry ID cards at all times, as they carry out random profiling to ensure residents are not connected to nor operating as Dons. Such speculative policing practices were, Jaffe concluded, nascent gentrification. Given their proximity to middle-class neighbourhoods, land developers and local governors know the areas will become prime real estate if they are crime free.

Conversely, in Caracas, Venezuela, citizens demand protection from the state rather than from non-state actors like Dons. In his talk, 'Who's Afraid of Caracas', Robert Samet related how residents – protesting police inaction – had burned down a police module on the outskirts of Caracas. Although President Hugo Chavez's death had politicised violence, the burned down police module was a distinctively non-partisan act prompted by police ineffectiveness and misconduct. The "sensation of security" – the overall feeling of crime the state fostered, which generated surprising solidarity and collective identities – could, he argued, partially account for Caracas' spiralling violent crime rates. Plan Secure Caracas, a multi-pronged initiative started in 2008, also sought to create this "sensation of security" through a very public display of force. Samet criticised the initiative's "fear of crime" paradigm: violence begets fear, removing citizens' agency and ignoring new forms of solidarity. To understand recent events in Caracas, where protests are much larger than the crime against which they are mobilised, insecurity and victimhood are unifying identities that push the government to ensure security.

Jonny Steinberg reflected on living with uncertainty amidst repeated abandonment and violence through his forthcoming book: *A Man of Good Hope*. He tells Asad Abdullahi's life story, a Somali born migrant forced to flee Mogadishu as a child after his parents are killed. Living a precarious existence across east Africa where

he encountered xenophobia and repeated threats to his survival, Abdullahi remained an undocumented Somali who entered adulthood trading in cities across South Africa. Each gamble he took, each chance to start anew, each step nearer to his dream of migrating to America, highlights how it is possible to not only negotiate uncertainty, but to embrace it as a way of opening up possibilities. Abdullahi's willingness to embrace uncertainty – to take risks – are borne from his personal history and resilience. His troubled, violent childhood; finding a wife and having children; seeing a relative's murder at a family shop; losing everything in a robbery – these experiences forced him to evaluate future options and the ongoing strategies he needed to navigate a highly uncertain urban life.

On the other side of the globe, Pete Fussey looked at how UK counterterrorism forces a mapping out of potential security risks in the wake of the "War on Terror". In his talk, 'Contested Topologies of UK Counterterrorist Surveillance: The Rise and Fall of Project Champion', he focused on security operations in Birmingham and London, highlighting how, post 9/11, new policing strategies are highly politicised and often contested, crosscutting different UK security-related institutions. The Association of Chief Police Officers (ACPO) in Birmingham, for example, developed surveillance camera systems that surrounded neighbourhoods with large Muslim populations. The surveillance systems, however, were not commensurate with threats to crime and safety and thus led to operational tensions. Similar strains were evident during the multi-layered security effort for the Olympic Games, when the multiple security agencies that were employed created confusion over who was actually responsible for policing the area. When policing is mediated through different actors, the activity itself becomes negotiated and contested, generating uncertainties.

In the ensuing discussion, participants explored how preventive and speculative forms of policing shape life in contemporary cities and questioned whether governing potential criminality magnifies urban inequalities. Reflecting the themes presented, they discussed how policing agencies imagine and predict future crimes and the various preventative technologies they use. Governing uncertainties in urban crime and security reflect the culture, people, places and institutions that surround them.

MANAGUA
SALVADOR
BUENOS AIRES
MONROVIA
JERUSALEM
MUMBAI

CAUGHT IN THE CROSSFIRE: URBAN VIOLENCE, INSIDE AND OUT

3 April, 2014

Panellists: Prof Dennis Rodgers (University of Glasgow), Dr Marta Magalhães Wallace (University of Cambridge), Prof Javier Auyero (University of Texas, Austin), Prof Wendy Pullan (University of Cambridge), Dr Danny Hoffman (University of Washington), Dr Jaideep Gupte (University of Sussex)
Chairs: Dr Austin Zeiderman (London School of Economics) and Prof Gareth Jones (London School of Economics)

This workshop examined how violence shapes urbanisation and everyday urban life from the street to the square, the workplace to the home, and from the margins to the centre. The speakers looked at how urban violence is lived, imagined, and/or governed from past to future, night to day, chronically to intermittently.

Dennis Rodgers began the day's talks with his research on gangs in Nicaragua; irrationality, delinquency, disorder and violence are ordinary facets of urban life there. The drug trade, however, fundamentally changed the nature of urban violence and the way people were ruled. Criminal groups replaced local gangs and, rather than protecting locals, these vigilante gangs became predatory. Paradoxically, however, the escalating gang warfare became performative sequences that urban residents could "read"; and, as the violence developed a pattern, it helped residents understand what was coming and better manage their uncertainty. Nevertheless, although the gangs provided some certainty with their regular pattern of violence, they would carry out spectacularly violent acts to create a climate of fear. Such acts epitomise what Rodgers terms the "urban uncertainty principle". They subvert the relationship between violence and uncertainty: gangs use uncertainty – a relationship between the known and unknown – to manipulate outcome-oriented urban violence. These highly organised groups have honed the art of violence; they are well aware of its power and often use it to maintain order. Violence in Nicaragua is complex and relational – certainty and uncertainty intertwine.

Moving on to citizenship and crime in Salvador, Brazil, Marta Magalhães Wallace looked at how these issues have become central to discussions of rights. In June 2013, nationwide protests over public transport fare increases and poor public services ignited demands for improved security. Protesters also wanted a bigger police presence, specifically demanding police patrol the periphery to control the slums, just as the military Pacifying Police Units (UPP) did in Rio de Janeiro. The UPP's unspoken job was to supress battling gangs and take responsibility for enforcing civility, but when the government implemented a similar scheme in Salvador, locals reacted badly. Urban political life in Salvador echoes this contradiction: residents demand justice, security and an ethical and egalitarian distribution of rights, but react negatively to the different ways they are kept safe. Some *soteropolitanos* (Salvador's residents), for example, retreat behind fortified walls; while others – those who cannot afford that lifestyle – are left to fend for themselves, bitterly resenting it. Those living without protection have had to relearn the city, changing how they interact in public areas and avoiding certain places at certain times. The city's problems are not just turning residents into victims; they are also making them more aggressive and potentially violent. The June 2013 demands that police control urban peripheries were linked with pleas for equal citizenship; paradoxically, however, these demands differentiated citizenship. By demanding secured peripheries, protesters ended up reducing their claim for justice, dignity and citizenship, and the opportunity to resolve the underlying causes of violence such as poverty and inequality.

Continuing the themes of violence, insecurity and uncertainty in Latin America, Javier Auyero presented his research on interpersonal violence in Arquitecto Tucci, a notoriously violent, poverty-stricken shantytown on Buenos Aries' periphery. In squatter settlements like Arquitecto Tucci, violence had become the norm, mostly stemming from chaotic interpersonal relationships. The violence – be it sexual, domestic or intimate, inside or outside homes – could take many forms. It is impossible, Auyero argued, to find its cause and effect; it is better to understand violence as a concatenated process. Consider the mother who physically beats her drug-addicted child who steals from their house to feed his addiction, and then phones the police to imprison him. She beats her son anticipating her partner's abuse of them both; she is thus acting to protect her child from a worse future. Aggression, Auyero claimed, is a routine way to deal with both individual and collective problems. Violent acts – from threatening rape to inflicting physical pain to involving the state in a pernicious form of governing – do not always derive from cruel intentions. Taking the perpetuator's point of view, these acts often aim to instil fear to prevent a greater evil. They are an attempt to break a more dangerous trajectory of events that start with drugs, escalate to robbery and often end in prison or, at worst, death. More broadly, Buenos Aires' violence reflects the drug economy's rising influence, the increasing informal economy and the police's intermittent presence in the shantytowns. We can better understand this violence, Auyero argues, when we view it contextually; it is thus important to consider it as a common practice that people living on the margins use to get by.

Wendy Pullan turned to the Middle East and the infrastructural violence in cities facing long-term ethno-national conflict with her paper: 'Spatial Discontinuities: Conflict Infrastructures in Contested Cities'. Drawing on Peter Sloterdijk's book *Rage and Time*, Pullan argued that ethno-national violence in Israel emerged when the careful balance between government violence and citizens' rage was upset and when structures and infrastructures were drastically altered. The Israeli government built new "walled cities", for example, as a quick fix to urban difference and violence. The heavily controlled boundaries, however, isolate those outside and make them feel vilified. Moreover, the segregated roads restrict Arabs' mobility and could become permanent cultural dividers. Stunted mobility is particularly stark in and around Palestine and Jerusalem, where anti-sniper walls further shield two segregated roads. The world focuses on the walls dividing Israeli settlements from Arab villages, but the segregated roads are often more restrictive for locals. According to Pullan, planning did not just make urban borders; it created "frontier urbanism". Borders might divide populations, but frontiers' exemplify "otherness". Moreover, "frontier" fittingly describes the scenario as the state quickly responded to and controlled any appearance of lawlessness in cities and settler towns. Public space, Pullan argued, is critical in Israel's contested cities. Even if Muslims, Jews and Christians did not openly interact in Jerusalem's public squares, for instance, it is still important for there to be a physical space for urban residents to intermingle.

Danny Hoffman moved the discussion on violence, urban infrastructure and cities to ex-militiamen in Monrovia, Liberia, in his presentation: 'Live Dangerously, My Brothers'. Violence is never far from young Monrovian men – indeed, it is often an economic tool. Hoffman describes the city as an important "barrack space" for recruiting and deploying ex-militia men. Even though the war ended 10 years ago, military culture is so ingrained in society that the barrack space stayed intact. Hoffman relates how ex-militiamen from the 1990s and early 2000s occupied and sought shelter in a partially built, now abandoned Ministry of Defence building. These men – who cannot integrate into the urban fabric in other ways – inhabit "gap-spaces" such as the Ministry of Defence building's ruins, searching for opportunities. Part of a labour pool sent to work in various political campaigns, battlefields, plantations and mines, violence remains part of their work. Rather than discovering invention and creativity as a means of survival, as the literature on African urbanism suggests, the disarmed militiamen kept using violence to survive. Considering Foucault's concept of "heterotopia", Hoffman suggested that ex-militia men living in these interstitial spaces are not inventing a new type of urban future. Violence does not create a political community nor does it provide any power to resist marginalisation. It remains

solely an economic tool, but one that bars the possibility of a new urban future.

Jaideep Gupte closed the workshop by looking at uncertainty in the deeply divided megacity of Mumbai. In his talk, 'The Complex Taxonomy of Security Provision in Mumbai', he uncovered the daily uncertainties caused by conflict and violence. Often racked by inter-communal violence, Gupte studied how the residents in the city's "informal" neighbourhoods – or those living spaces that have grown organically, without formal governmental input – react and interact with the demonstrators during violent riots. Informal neighbourhoods where Muslims resided were thought to be out of bounds, mysterious to the city's majority Hindu population and often rendered invisible by infrastructural constructions such as flyovers. Inner-city Muslim slums have had long associations with local gangs (including the infamous D-Company), and in the 1990s harboured much urban violence. Not only had the Mumbai Police carried out numerous gangster killings, the Hindus and Muslims' caught these spaces in their cross fire during the 1992-1993 riots. Focusing on three particular moments during these riots, Gupte argued that urban violence had drastically changed Mumbai's space and sociality: 1) Mumbai police had expected that violence would hit inner-city Muslim neighbourhoods hardest and thus decided to contain its population physically; 2) Young men from the slums took to vigilante policing. Trying to reclaim the streets, they scattered debris and set tyres on fire at neighbourhood entrance points to prevent the police from entering; 3) When rumours of the police's complicity with Hindu rioters was proven true, the post-encounter killing truce between Muslim gangs and the police was shattered. Almost overnight, gang members distributed small arms across the city's "zone of safety". Local youths' particular acts of violence and bravery, Gupte concluded, transformed prevailing attitudes towards the inner-city neighbourhoods from unknown spaces to safety zones in an increasingly uncertain city, overturning notions of safety and security in the city.

In the following discussion, participants reflected on typologies of violence and questioned how relevant they are for understanding urban uncertainty. Focusing on the first three presentations, they considered how violence as a condition could instigate political claims, as well as equality and citizenship-rights advocacy. Participants also queried infrastructural boundaries' permeability; built to prevent social mixing – hence, violence – they asked the last three speakers whether producing these "heterotopic" or "other" spaces could produce opportunities for invention or destruction. More broadly, the group discussed how the notion of violence turned inside out was key to thinking through the ways in which violence shaped urban uncertainty. They agreed there is a dynamic relationship between urban violence and uncertainty. The theoretical traditions from which each speaker considered uncertainty in violent cities prompted debate about how we produce and mobilise different models and conceptualisations of uncertainty. Participants agreed that for each event, situation, or case study presented, it is important to consider who decides what is certain/uncertain in cities and how to manage related power relationships.

SPECIAL EVENT: CITIES, FRAGILITY AND CONFLICT IN AN UNCERTAIN WORLD

Expert Seminar
11 June, 2014

Speaker: Dr Aisa Kirabo Kacyira (Deputy Executive Director, UN-Habitat)
Respondents: Prof James Putzel (London School of Economics) and Dr Austin Zeiderman (London School of Economics)
Chair: Mr Philipp Rode (London School of Economics)

In this expert seminar, the urban uncertainty project team invited Dr Aisa Kirabo Kacyira, Deputy Executive Director of UN-Habitat and former mayor of Kigali (Rwanda) to speak on cities, fragility and conflict in an uncertain world. In an age of increasing connectivity and globalisation, global politics interplay with urban politics to produce manifold uncertainties. Cities become sites where local and international investors, governments, business corporations, non-government organisations and civil society interact to mitigate uncertainties from problems such as economic shocks, rapid migration, infrastructural collapse and environmental destruction. At the same time, ill-conceived economic policies and development initiatives continue to undermine state power and increase political uncertainties and civic conflict.

Kacyira acknowledged that steering urbanisation processes successfully and peacefully is often cities' most challenging task in fragile states, especially since state institutions' weakening, leads to competing authorities and multiple centres of power. In such an environment, Kacyira argued that city governments can play a central role in responding to state failure and in driving forward state-building processes. Moreover, drawing on her experiences of governing Kigali – one of the fastest urbanising cities to have successfully overcome a violent past – Kacyira detailed the ways urban authorities can pilot fragility and post-conflict situations. If local governments can develop strong leadership, eradicate corruption, and boost economic investment and growth, cities in fragile states can play an important role in navigating conflict-induced uncertainties and post-conflict reconstruction.

In the ensuing conversation, James Putzel and Austin Zeiderman raised important points for discussion. Putzel highlighted that political settlements and partnerships between urban elites and state-authorities are often critical to ensuring stability in rapidly urbanising cities in fragile states. Zeiderman argued that it is important to question whether urban conflicts are local or limited to the urban

scale; urban governance should be seen as an arena where conflicts over political authority play out rather than as a mere technical solution. Participants also highlighted how important it is to consider the relationship between conflict and economic success. In effect, conflict-induced uncertainties could be opportunities for some individuals to expand political power, but also help in suspending a certain form of urbanism while facilitating another.

VALENCIA
LONDON
SEKONDI–TAKORADI
SÃO TOMÉ
LUANDA
BAKU
ABADAN

PETRO-URBANISMS: URBAN FUTURES ON THE OIL FRONTIER

8 July, 2014

Panellists: Dr Matt Wilde (London School of Economics), Dr Gisa Weszkalnys (London School of Economics), Dr Nelida Fuccaro (School of Oriental and African Studies), Prof Andrew Barry (University College London), ThienVinh Nguyen (University College London), Dr Chloé Buire (Durham University)
Chair: Dr Jonathan Silver (London School of Economics)

Examining "petro-urbanism" – how the hydrocarbon economy and global infrastructures of oil directly affect global urbanisation – the six speakers in this workshop considered, broadly, how the battle for oil resources is inextricably tied to uncertain urban futures, extending far beyond oil regions.

The first speaker, Matt Wilde, looked at working-class political activists in Valencia, Venezuela in his paper: 'Political Subjectivity and Uncertainty of Oil in Venezuela'. He examined their ideas of *formación* – an ideological or moral formation – and its links to the particular anxieties oil had generated in the national imaginary. This myth dated back to the 1940s and 1950s when Venezuelan middle classes (especially those who worked for American oil companies) embraced American consumption and political leaders closely aligned themselves with oil's "magical" properties. The myth was not to last. Subsequent oil corruption-related scandals and political murders gradually turned the prized resource into a nationally accepted corrosive economic and moral force – an idea socialist leaders especially promoted. Within this context, Wilde explained, grassroots activists, many of whom supported Chavez's vision for a socialist country (*Chavistas*), formed new notions of *formación*. *Chavistas* believed Venezuela could only achieve this vision through individuals' moral fortitude; they were heavily concerned with *formación* or the "moral, intellectual, and ideological formation of persons". Oil as a cursed resource had thus permeated national ideology: Valencians believed the country lacked moral substance and Chavez's plan for moral and religious redemption was a way to atone for previous excesses. The various narratives propagated highlight oil's role in creating cultural intimacy as well as uncertainty, bringing both hope and despair to oil's transformative potential.

Gisa Weszkalnys continued the conversation on oil's uncertainty in the cultural imagination through a case study of São Tomé and Príncipe. In her talk, 'Petro Urbanism Arrested', Weszkalnys looked back at oil's history in the African islands. From speculation in the 1970s, to contracts for exploration in the 1990s, its potential existence gave rise to a "politics of anticipation". Though oil's physical existence remains uncertain, its promise is everywhere: anticipating future wealth, the number of banks in São Tomé have increased and new urban developments have sprung up, ready to accommodate the oil extraction industry. The World Bank funded National Oil Agency (NOA) is, however, the most definitive sign of anticipation; in fact, anticipation is its modus operandi. Modelled after the Brazilian and Norwegian oil agencies, and established to promote natural resource extraction – despite potential detrimental effects – the NOA is responsible for overseeing oil sector policy and representing good governance. Upholding São Tomé as an exemplary place for resource extraction, it promises to ensure the oil flow while enforcing bureaucratic infrastructures to guarantee it does not become a "resource curse." Despite the disappointment of past oil exploration, the future oil production's uncertainty and the related anticipation has transformed São Tomé and Príncipe's urban and institutional infrastructures.

Nelida Fuccaro took a different tack, examining oil's auspicious yet turbulent history in the Middle East. She considered both how oil shapes culture and how petro-urbanism interacts with violence. In the present tumults, people have largely forgotten the Persian Gulf's oil-dominated past. Once considered the future of fuel – an unending resource and a way of life – oil has never been without uncertainty and violence. Abadan, Iran, a cosmopolitan city built on oil production in the 1930s, exemplifies Iran's modern urban development. At its peak, Abadan was one of the largest oil producing cities in the world, yet the city was fractured and violent – oil both gave and extracted power. Ultimately, the Iraqi forces destroyed it during the Iraq-Iran War in the 1980s. The city's rise and fall reflects the "delirious" post petro-urbanism seen in Dubai and Kuwait; its illusions of development and continuous wealth exist alongside realities of supply and

scarcity, peace and violence. Historically linked to colonial ideals of separation, Fuccaro queried whether oil company towns could ever form a "real" urbanism. In Iran, prior to nationalisation, towns symbolised segregation; however, after nationalisation, oil urbanism became important to state building. Fuccaro also criticised the rentier-state theory, through which the image of the oil city – in contrast to what Wilde found in Venezuela – was perceived and lived through a "great expectation" that outweighed the curse it was supposed to bring.

Carrying on the theme of oil companies' powerful role in creating urban futures, Andrew Barry looked at how British Petroleum (BP) shaped Baku, Azerbaijan. In his presentation, 'Baku-London: The Oil City Relation', Barry traced BP's arrival in Baku, beckoning a new future and revitalising this post-soviet city in transition. Palaces and soviet housing blocks built at different phases of oil exploration surrounded Baku, marking different periods of economic development, reconstruction and oil production. Following Soviet withdrawal, BP and NGOs used the palaces as offices, while oil dissidents took over abandoned Soviet housing. Although not outwardly visible, one could also see BP's non-polluting, socially conscious operations – the new "clean" post-Soviet oil industry – through its documentation. Oil extraction in the city itself did not solely create Baku's future, however; the expertise, finance and dissidence that spanned across the world also shaped it. Barry mapped Baku's relationship to London, a city that financed oil extraction, detailing how protests outside oil companies raised the profile of its problems in cities like Baku. Baku's oil infrastructures mirror London – with oil consultants, bankers and managers operating alongside dissidents who contest BP's activities – although Azerbaijan's politics are less visible in London.

ThienVinh Nguyen shifted the conversation to urban oil governance in Sekondi-Takoradi, Ghana, discussing her ongoing research there. Challenging existing narratives on African oil politics – which promote oil as a "resource curse" and tell of a corrupt state elite working with foreign oil companies – Nguyen argued that this obscures the important role that the city and urban governance structures play. Analysing oil politics through an urban context, Nguyen is looking at how, and with what results, local government enters into dialogue with national oil aspirations and international companies. In Ghana, the huge returns promised from Jubilee Oil Fields in Sekondi-Takoradi, for example, were so great they caused a migrant influx into the city. It is thus important, Nguyen argued, to first study how both state and non-state actors are living oil futures day to day and then to understand local governing bodies' oil aspirations. Finally, Nguyen urged us to consider how different groups worked with and against the state in order to achieve their own visions of the future.

To finish the day, Chloé Buire looked at how citizens carrying out their day-to-day lives in Luanda, Angola, invigorate the state in the context of petro-urbanism. In the last 10 years of urban development in Luanda, Buire highlights three particular encounters between the people and the state that define the post-civil war state: 1) The "dramatic encounter" – where a family was forced to move from the city centre to Panguila, a peripheral settlement. This forced resettlement reflected the state's 'tabula rasa' approach to reconstruction and emergency. Over the years, auto-construction has transformed the resettlement. 2) The "invisible encounter" – where residents took charge to improve their living conditions. Ironically, as the state sent more evictees to the resettlement, they also contracted more residents to build the new infrastructure and housing that replaced their old homes. Thus, the evictees who united on the peripheries paralleled the state's actions in co-producing the settlement. 3) A "re-conception of the city" – Panguila functioned to legitimise the state, to promote its ability to provide social housing. Social housing in the settlement, however, also illustrates the state's failures and limitations, as many evictees sent to Panguila find their houses sold or occupied before they reach them. The settlement, Buire concludes, held – importantly – possibility: some families moved there to engage with the state and consolidate their political power.

The ensuing discussion raised interesting questions of how oil shapes both elites and ordinary residents' future aspirations in an urban setting. The questions included: how it could be methodologically possible to build geographies of oil; whether the double discourse of oil (as a positive or negative influence) can be mirrored onto the double discourse of the city (degeneration vs. possibility) to study urbanism; and oil's temporalities. The discussion on oil's temporalities focused particularly on the expectations produced *before* oil even arrived; what happens *after* oil runs out; and finally, where power comes from in shaping oil futures.

LONDON KARACHI

MEDIATING UNCERTAINTY: INFORMATION AND THE URBAN

11 September, 2014

Panellists: Adam Greenfield (London School of Economics), Prof Rob Kitchin (Maynooth University), Dr Jennifer Gabrys (Goldsmiths, University of London), Dr Myria Georgiou (London School of Economics), Huma Yusuf (Woodrow Wilson International Center for Scholars)
Chair: Dr Sobia Ahmad Kaker (London School of Economics)

In this workshop, we invited academics, policy advisors and journalists to share insights on how, and with what results, technology advances in data gathering, communication and networking have influenced and shaped urban governance and political life in cities. They examined how various actors produce, gather, share and/or use knowledge on different aspects of urbanism and considered how circulating such information at once mediates, mitigates and creates urban uncertainty.

Adam Greenfield started the day with his presentation on the "smart city" – a place where networked technologies mix with the urban fabric so that city dwellers automatically generate data streams. Often framed as the future of administrative efficiency and as a panacea for difficulties facing the modern metropolis, such discourses suggest that through this data input, the city will become more certain, more knowable and thus more effectively governed. The smart city concept, Greenfield counters, has little to do with how cities are actually lived, and more to do with neoliberalism's technocratic, utopian biases. Rio de Janeiro, for example, built a "fusion centre" to synthesise and analyse its data for administrative use. Greenfield explains that the smart city is exclusionary as it is currently conceptualised and he argued, instead, for an "augmented public assembly", when networked technologies operate at a local level for a more discursive, deliberative and – ultimately – effective democracy. For instance, Lumio, an app made in New Zealand, translates organic, collective action into a digital medium. Networked technologies like Lumio can be successful at embracing and enabling "dissensus", a process of disagreement that helps to change issues "from a matter of fact into a matter of concern". Greenfield concludes, ultimately, that networked technologies force deliberation and can thus lead beyond streamlined administrative processes towards "solidarity and mutual aid".

Looking critically at data production, as Greenfield did, Rob Kitchin then focused on "urban indicators" or data produced by sensors installed in the city to detect traffic, sanitation, health, etc. This data has proliferated since environmental sustainability and efficiency triggered a new managerial approach to city governance. It privileges a certain urban epistemology – namely the "city as numbers" perspective – that champions quantifiable interpretations of the urban environment. Atlanta, USA, for example, now uses data streams to assess "underperforming" policy areas, assuming that detailed urban indicators accurately reflect the city's workings. Rather than acting as a mirror for urban realities, Kitchin suggested that such data "works" by producing knowledge, framing debates and legitimating governance strategies. Kitchin argued that, when using it, it is thus important to question the sort of work you want urban indicators to do. Data production – far from a benign technological process – is a contextual system of knowledge creation that happens within "assemblages" of data. In this sense, urban data only makes sense when one understands the systems of thought, forms of knowledge and financial arrangements that underpin it. Among other things, such data collection can break-up complex contingent relationships, decontextualise a city from its history and political economy, and undermine and replace other forms of urban knowing. Kitchin – who himself develops urban indicators for Dublin – stressed that these failures tend to arise when cities view indicators instrumentally. Data collection can improve the city as a lived-in space however, if cities understand data streams' limitations and supplement it with other interventions.

In the second half of the workshop, speakers looked more specifically at how uncertainty connects with information technologies, political subjectivity and urban governance. Jennifer Gabrys started with her presentation on sustainable urbanism, examining smart city initiatives to explore how networked urban citizens might achieve sustainability. She looked at a design document William Mitchell and Federico Casalegno produced for Cisco and MIT's Connected Urban Development project. It presented an all-encompassing vision of sustainable urban living: energy-harvesting sensors made quotidian activities (like bike riding or standing in an elevator) "productive", while motion-tracking technologies minimised inefficiencies in energy consumption. Casalegno and Mitchell's proposals do not act as methods of control, she argued, but as spatial technologies – providing a blueprint for sustainability through efficiency that will still achieve economic growth. Yet, Gabrys took issue with the seamless interaction between citizen, technology, economic growth and human empowerment that smart city proponents imagined. Such thinking was not only overly utopian, she argued, it pushed uncertainty from governance to citizen. Significant moments of "inoperability" exist that contradict the widely accepted view that smart city infrastructures are seamless, integrated and productive. A "smart" urban environment may make certain facets of the city more knowable for the government, but a sensor-infused city creates

more uncertainties for the average citizen who has little information about how new urban technologies will affect his or her life. We should thus not conflate environmental technology, smart cities and sustainability. The three concepts have the potential to work together, but they can just as easily operate as countervailing or contradictory forces. Ultimately, the smart-city concept creates a specific and limiting conception of the sustainability-conscious urban citizen.

Myria Georgiou then took us to Harringay Green Lanes, a diverse neighbourhood in north London, where in her talk she discussed how residents navigate contradictions and uncertainties in a multicultural city and, more specifically, how people in dense urban neighbourhoods handle the diversity. Georgiou shared her recently conducted fieldwork where she studied the Harringay residents' experiences of mediating linguistic differences and resolving cultural conflict. Data gathered from surveys, focus groups and ethnographic methods identified the neighbourhood's patterns of media usage and suggested that different cultural blocs – namely white, Turkish, and African-Caribbean – adopted distinct and separate media consumption patterns. For example, Harringay Online (a forum for neighbourhood activities) has mostly white residents on it while a number of print newspapers cater specifically to the African-Caribbean community. Interestingly, this separation created opportunities for conviviality rather than unsociability. Creating complementary networks allowed residents to recognise difference through mutual respect, at the same time giving them a sense of stability and security within a multicultural environment. Contradicting social integration's hegemonic logic, successful urban networks in Harringay were not, Georgiou argued, based on reducing cultural difference but on a form of "convivial separation". Such separation helps manage uncertainty and provides opportunities for unity.

Offering a contrasting view of information and difference, Huma Yusuf – a journalist and risk analyst in Karachi – wrapped up the day by examining uncertainty in Karachi's information and communication technologies (ICTs). Exposing the violence that can emerge from a shifting technological environment – where private broadcast media and cell phone usage pervades – Yusuf revealed the unexpected and often devastating effects it has had on Karachi, a city that is, on average, 25% more violent than other major cities. Violent ethnic politics (between Muhajir, Sindhis and Pashtuns) have operated alongside sectarian tensions between Shi'ite and Sunni Muslims. Together, such violence frequently leads to complex and pervasive bouts of militancy. To understand how this militancy links to ICTs, Yusuf presented three case studies. First, she looked at how the government controls media to consolidate political support – working hard to ensure only positive images of certain figures. This happens through a combination of institutional control and violence against journalists. The media landscape, rather than acting as a catalyst for civil liberties, has become the site of violent political power struggles – 57% of journalists killed in Pakistan are covering electoral politics. Second, Yusuf argued that media depictions of sectarian violence often drive "revenge killings". Third, she highlighted a recent phenomenon where blasphemous text messages are sent (via proxy) to targeted groups of people intending to trigger violence between the target group and the alleged sender. To conclude, Yusuf stressed that Karachi's media environment has – contrary to utopian visions that equate media saturation with democratic progress – exacerbated violence and uncertainty.

The ensuing discussion focused on how uncertainty percolates through urban life, drawing out social and political information as a tool for governing it. Participants queried the smart city's utility – does the data generated by automated sensors create a useful picture of how cities are actually lived? If so, who is that picture created for and who will have access to the information that it is based on? They also discussed how divergent outcomes could exist at the intersection of media, uncertainty and the urban environment. How could cities encourage the mediated uncertainty that leads to conviviality, like in Harringay Green Lanes, while at the same time deterring the cycles of violence that follow mediation as in Karachi? Participants agreed that uncertainty continues to dominate the urban experience, but contextual research can help bring conceptual clarity to how it shapes everyday lives in different socio-political environments.

SPECIAL EVENT: URBAN FUTURES IN THE ASIAN CENTURY: UNCERTAINTY, SPECULATION, EXPERIMENTATION

Full Day Event in Delhi
13 November, 2014
Goethe-Institut, Max Mueller Bhavan Library, New Delhi

Panellists: Dr Solomon Benjamin (Indian Institute of Technology, Madras), Awadhendra Sharan (Centre for the Study of Developing Societies), Dr Yue Zhang (University of Illinois at Chicago), Dunu Roy (Hazards Centre), Dr Gautam Bhan (Indian Institute of Human Settlements), Dr Rohit Negi (Ambedkar University), Prof Ananya Roy (University of California, Berkeley), Lalit Batra (University of Minnesota), Dr Karen Coelho (Madras Institute of Development Studies), Dr Kavita Ramakrishnan (University of Cambridge), Dr Anant Maringanti (IIHS/Hyderabad Urban Lab), Dr Jonathan Silver (Durham University), Prof Amita Baviskar (Delhi University), Prof Sue Parnell (University of Cape Town), Dr Partha Mukhopadhyay (Centre for Policy Research), Dr Liza Weinstein (Northeastern University)
Chairs: Dr Mukulika Banerjee (London School of Economics), Dr Ryan Centner (London School of Economics), Nuno Ferreira da Cruz (London School of Economics) Dr Naomi Roux (London School of Economics)

This special event was organised to coincide with the LSE Cities' Urban Age Conference on 'Governing Urban Futures', hosted in Delhi in 2014. Held one day before the Urban Age conference, the full day event aimed to draw attention to the ways in which urban governance in Indian cities is increasingly speculating on possible futures, anticipating potential uncertainties and experimenting with techniques for managing the unknown within the Asian century.

The rise of China and India as centres of economic dominance and political influence has excited interest and attention among a range of local and international governments. Cities both within and beyond the region prepare for, adapt to and compete in the Asian century, and its residents and governors debate collective visions for the "city yet to come". Emerging models of Asian urbanism envisage multiple alternatives of bold urban futures and redefine normative perspectives on urban governance, planning, and architecture. In the meantime, urban residents living within the shadow of the Asian Century adapt, contest or find alternative ways to live with and manage daily uncertainties. The urban future therefore holds both governmental management and political contestation, especially in many rapidly urbanising and globalising Indian cities.

Events were structured around a series of conversations and exchanges between local and international scholars, practitioners, and activists. They discussed how uncertain futures in Indian cities are planned, materialised, produced and lived. In the process, they debated how anticipated futures are materialised (for example, through ongoing infrastructural and developmental projects), and how such materialisations may generate other forms of uncertainties for urban residents (for example, housing tenure, social inclusion, or conflict). Participants also discussed uncertainty's productive force. In some cases, plans for urban developmental projects had divided urban residents, while in others they had encouraged citizen-led responses and collective action between groups that may not have ordinarily formed political alliances. Finally, participants shared the strategies urban residents adopted as they adapted to uncertainties. These strategies, most agreed, were often more effective than governmental policies at mitigating uncertainty, simply because of their flexible and negotiable nature.

By critically exploring how urban uncertainty shapes urbanism and social and political life within and beyond cities, the special event drew attention to lived realities of cities that are preparing for, adapting to and competing within the "Asian century". Overall, the conversations and debates generated by this event substantiated the team's ongoing exploratory work on urban uncertainty, while opening new pathways for theorising, analysing and comparing the ways urban uncertainty is produced, understood, experienced and governed across different geographical contexts.

UNITED KINGDOM
EAST JERUSALEM
BAGHDAD
BANGKOK

MOVING IN AND AROUND THE CITY: MOBILITIES, CIRCULATION AND UNCERTAINTY

12 May, 2015

Dr Javier Caletrío (Lancaster University), Dr Jonathan Darling (Manchester University), Dr Claudio Sopranzetti (University of Oxford), Hanna Baumann (Cambridge University of Cambridge), Dr Ali Abdul Kadir Ali (London School of Economics)

This workshop explored uncertainties tied to physical circulations in the city – from urban residents' daily movements to migrants' mobilities – and looked at how policy interventions to limit and control them made

mobility uncertain. The speakers highlighted how urban residents may respond to uncertain conditions through mobility; how governments managing urban mobilities may structure their agendas around security, emergency and crisis; and how governing emerging mobilities may affect urban futures.

Javier Caletrío started the day with his research on tourists in the Mediterranean, examining how climate change narratives shape visitors' experience in his presentation: 'Waiting for Catastrophe: uncertainty, climate change and the tourist city'. The Mediterranean's northwest coast is the busiest and most urbanised stretch in Europe, receiving roughly a quarter of the world's international tourists. Mass tourism has fuelled demand for beachfront villas and flats, spurring intensive construction and development along the Spanish coast with little consideration for the environment or for potential issues caused by climate change. Even though tourists understand the potential for global warming to destroy their vacation spots and holiday homes, Caletrío argued they are unable to accept the possibly disastrous effects. Moreover, profit-oriented local politicians lack interest in countering the coast's urbanisation and protecting the environment. Global warming, Caletrío reflected, was an uncertain, perplexing agent, especially as its mobility was invisible: it could arrive at any moment without warning. Tourists along this area therefore described it as something not within their experience although they expected it – climate change was diffuse and ambiguous in its scope and effects. Ultimately, its inherent uncertainty makes it difficult to combat effectively.

Jonathan Darling turned the conversation to the uncertainties that asylum accommodation and dispersal produce across the UK. In his presentation, 'Producing Urban Asylum: austerity, accommodation and the resurgence of the "burden"', Darling looked at recent changes in UK asylum policy and politics, explaining how governmental policies that give private companies exclusive control of asylum accommodation and support services adversely impact on their quality. Drawing on fieldwork from Birmingham, Cardiff, Glasgow and Sunderland, Darling argued that first, such forms of privatisation deepened austerity-related vulnerability and instability for asylum-accommodation service users. They were often housed in dismal conditions with little consideration given to their preferred cities with community support. Second, the new system generated lines of authority, influence and (dis)engagement between local authorities and private agencies, since the former no longer makes decisions about asylum accommodation. Third, this shifting accountability and fragmenting responsibility ended up depoliticising asylum – whether as a social policy issue or as a social justice concern. Uncertainty was therefore not only a guiding logic for governing asylum housing and dispersal, such governmental policies produced it.

Moving to Thailand, Claudio Sopranzetti presented his research on mobility and political unrest. In his talk, 'Mobilising Uncertainty: managing flow in contemporary Thailand', Sopranzetti considered mobility and circulation as agents for capitalist accumulation, value creation and exchange, as well as producing, managing and mobilising uncertainty. The Asian Financial Crisis restructured the Thai labour market and the failure to limit global capital's circulation led to a shift from mass production to self-employment and flexible labour. In this environment, many young educated people earned money and serviced the city's economy by becoming motorcycle taxi drivers. These drivers then emerged as significant political actors in the pro-Thaksin protests in Bangkok in 2008-2009. Supporting the Red Shirt movement, they used their intricate road knowledge to transport protesters through the city centre's securitised and barricaded areas to the occupied area in front of the governor's house. The otherwise passive motorcycle taxi drivers became key agents of the upheaval – filtering, managing, and severing circulation became an act of wilful political consciousness. The drivers' political agency reflects the paradox of their urban mobility: producing new uncertainty but also providing tactics for resisting and challenging the state's hold over them.

Moving the discussion to the Middle East, Hanna Bauman presented her paper: 'Moving on Uncertain Ground: Urban mobility and contested boundaries in East Jerusalem'. Focusing on Palestinians' stunted mobility in East Jerusalem and other parts of Israel, Bauman highlighted how exclusionary infrastructural projects exacerbated Palestinians' uncertain and precarious political status in Israel. By creating exclusive ethno-national enclaves for Jewish residents with checkposts and borders, the state aimed to restrict Palestinians' everyday mobilities in East Jerusalem. In that area, Arabs always found it difficult to access parts of the city, while in peaceful times Jewish residents were free to move between their enclaves and through Palestinian zones. In parallel to these everyday itineraries, ongoing projects of transport infrastructure also affected Palestinian and Israeli residents' movements. These included the Jerusalem light rail, which served both Israeli and Palestinian areas in an attempt to "link East Jerusalem with itself". During times of political crisis, however, the Jerusalem light rail often becomes a site of friction and a target of violent attacks. This is largely because Palestinian Jerusalemites are frustrated by their shifting status quo in the city and react suspiciously. Despite hardships, they insist on their right to move through Israeli enclaves in East Jerusalem, yet they sabotage attempts at inclusion through circulatory infrastructural projects, which they regard as state-led attempts at advancing the Israeli frontier.

To conclude the day, Ali Ali looked at Iraq's 2003 Anglo-American invasion and the subsequent occupation that restricted Baghdad's socio-politics and constrained everyday mobility. In his talk, 'Narratives of Displacement and Constrained Mobility in Occupied Baghdad: 2003-2010', Ali highlighted how the post-war rise in sectarian

politics and the military occupation forced Baghdadis into "protracted displacement" and involuntary immobility; residents could neither take flight nor resume their everyday activities. Insecurity and rampant criminality further disrupted movement. Residents had to go through ever-shifting US Army checkpoints, ongoing firefights between occupation forces and armed resistance groups, and choked roads blocked by car bombs. The collapse of state sponsored public services (including electricity to power traffic lights and police to regulate traffic) made the situation worse. Daily commutes often halted to lethal grinds. Moreover, the city splintered along political (sectarian) lines, and areas were becoming "off limits" to "others". In this environment, sectarian militia groups who set up checkpoints in residential areas and often killed wayfarers due to their perceived identities, just exacerbated mobility uncertainties. Ali reflected on how the lingering war affected Baghdadis' daily movements – they were forced to adapt their routines as well as their identities as they moved around the city.

In the ensuing discussion, participants questioned how time and speed affect uncertainty in urban mobilities. The speakers discussed how different speeds affect urban movements' hierarchies, power and structure. Examining mobilities of military vs. civilian subjects, Israelis vs. Palestinians, asylum seekers vs. migrants, or protest leaders vs. protestors indicate how power hierarchies come into play. This is especially the case, participants suggested, since opportunity to access speed is linked to authority and power. The discussion also highlighted urban mobilities' tactical negotiations – knowing cities is important to subvert dominant forms of circulation and mitigate related uncertainties.

LSE Cities

LSE Cities is an international centre at the London School of Economics and Political Science that carries out research, education and outreach activities in London and abroad. Its mission is to study how people and cities interact in a rapidly urbanising world, focusing on how the design of cities impacts on society, culture and the environment. Through research, conferences, teaching and projects, the centre aims to shape new thinking and practice on how to make cities fairer and more sustainable for the next generation of urban dwellers, who will make up some 70 per cent of the global population by 2050.

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